API Well Number: 43047552670000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
NBU 1022-9J1BS

2. TYPE OF WORK
DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
NATURAL BUTTES

4. TYPE OF WELL
Gas Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME
NATURAL BUTTES

6. NAME OF OPERATOR
KERR-MCGEE OIL & GAS ONSHORE, L.P.

7. OPERATOR PHONE
720 929-6100

8. ADDRESS OF OPERATOR
P.O. Box 173779, Denver, CO, 80217

9. OPERATOR E-MAIL
Andy.Lytle@anadarko.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU 01196-D

11. MINERAL OWNERSHIP
FEDERAL ◉ INDIAN ○ STATE ○ FEE ○

12. SURFACE OWNERSHIP
FEDERAL ◉ INDIAN ○ STATE ○ FEE ○

13. NAME OF SURFACE OWNER (if box 12 = 'fee')

14. SURFACE OWNER PHONE (if box 12 = 'fee')

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ◉ (Submit Commingling Application) NO ○

19. SLANT
VERTICAL ○ DIRECTIONAL ◉ HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1908 FSL 1802 FEL	NWSE	9	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	2576 FSL 1794 FEL	NWSE	9	10.0 S	22.0 E	S
At Total Depth	2576 FSL 1794 FEL	NWSE	9	10.0 S	22.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
850

23. NUMBER OF ACRES IN DRILLING UNIT
320

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
592

26. PROPOSED DEPTH
MD: 10096 TVD: 10013

27. ELEVATION - GROUND LEVEL
5208

28. BOND NUMBER
WYB000291

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
43-8496

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2410	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 10096	11.6	HCP-110 LT&C	12.5	Class G	300	3.38	12.0
							Class G	1480	1.31	14.3

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

- ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☑ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ☑ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ☑ TOPOGRAPHICAL MAP

NAME Joel Malefyt | **TITLE** Regualtory Analyst | **PHONE** 720 929-6828

SIGNATURE | **DATE** 03/04/2015 | **EMAIL** joel.malefyt@anadarko.com

API NUMBER ASSIGNED
43047552670000

APPROVAL

Permit Manager

RECEIVED: March 12, 2015

Kerr-McGee Oil & Gas Onshore. L.P.

NBU 1022-9J1BS

Surface:	1908 FSL / 1802 FEL	NWSE
BHL:	2576 FSL / 1794 FEL	NWSE

Section 9 T10S R22E

Unitah County, Utah
Mineral Lease: UTU-01196D

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. & 2.a **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1,204'	
Birds Nest	1,500'	Water
Mahogany	1,960'	Water
Wasatch	4,327'	Gas
Mesaverde	6,803'	Gas
Sego	8,886'	Gas
Castlegate	8,968'	Gas
Blackhawk	9,413'	Gas
TVD =	10,013'	
TD =	10,096'	

2.b Kerr McGee Oil & Gas Onshore LP (Kerr McGee) may elect to drill to (i) the Blackhawk formation (part of the Mesaverde Group), (ii) to a shallower depth within the Mesaverde Group, or (iii) to the Wasatch Formation. If Kerr McGee drills to the Blackhawk formation, please refer to Blackhawk as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr-McGee drills to a shallower depth in the Mesaverde Group or to the Wasatch Formation, please refer to the attached Wasatch/Mesaverde Drilling Program which includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the shallower formations.

3. **Pressure Control Equipment**

Please refer to the Standard Operating Practices on file with the BLM Vernal Field Office.

RECEIVED: March 04, 2015

4. Proposed Casing & Cementing Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

5. Drilling Fluids Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

6. Evaluation Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

7. Abnormal Conditions:

7.a Blackhawk (Part of Mesaverde Group)

Maximum anticipated bottom hole pressure calculated at 10013' TVD, approximately equals 6,408 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,191 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

7.b Wasatch Formation/Mesaverde Group

Maximum anticipated bottom hole pressure calculated at 8886' TVD, approximately equals 5,420 psi (0.61 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,489 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the Standard Operating Practices on file with the BLM Vernal Field Office.

10. Other Information:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

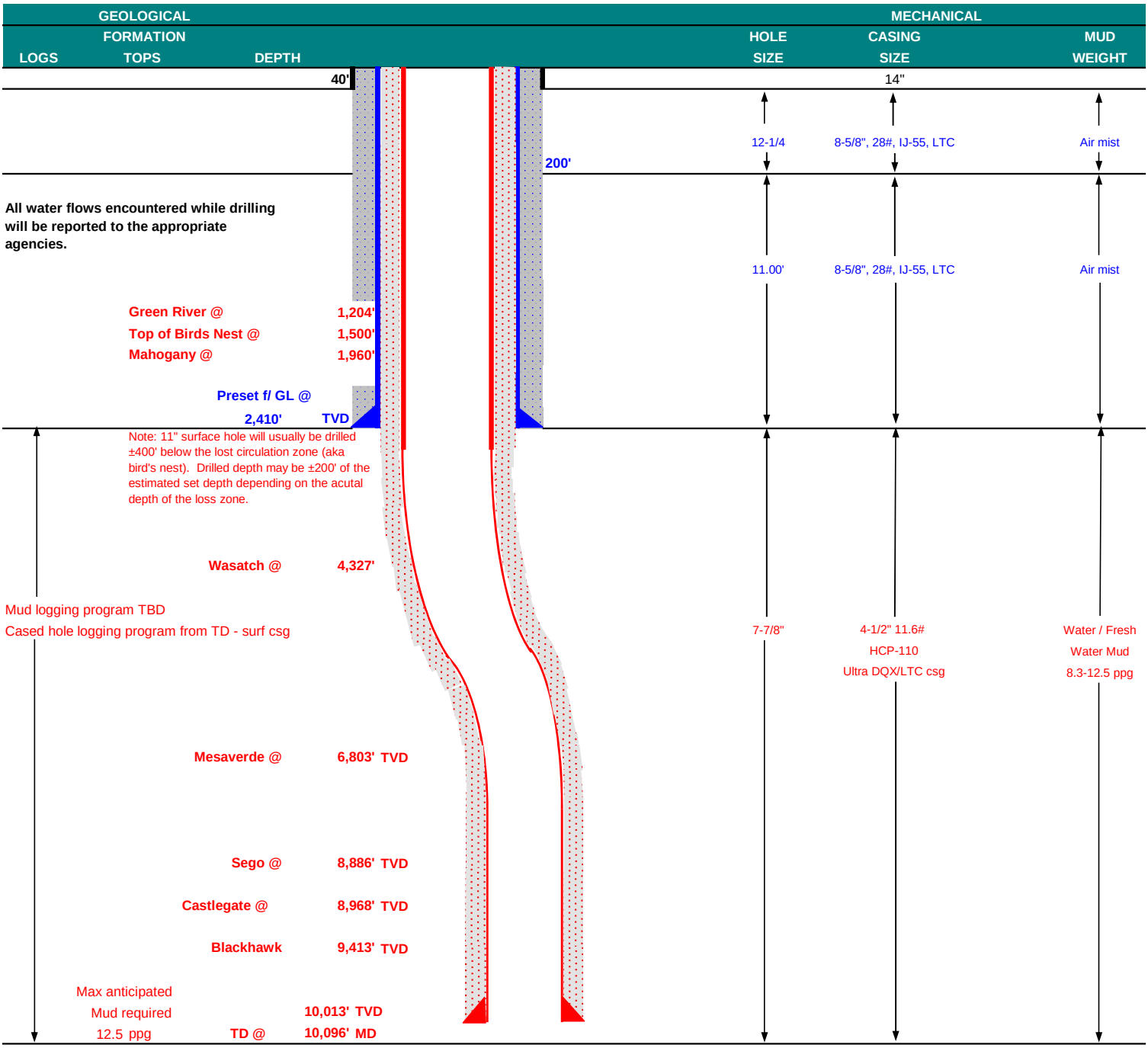
RECEIVED: March 04, 2015

KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Blackhawk Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP				DATE	March 3, 2015	
WELL NAME	**NBU 1022-9J1BS**				TD	10,013' TVD	10,096' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	5,208'
SURFACE LOCATION	NWSE	1908 FSL	1802 FEL	Sec 9	T 10S	R 22E	
	Latitude:	39.961491	Longitude:	-109.441784		NAD 83	
BTM HOLE LOCATION	NWSE	2576 FSL	1794 FEL	Sec 9	T 10S	R 22E	
	Latitude:	39.963324	Longitude:	-109.441761		NAD 83	
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)						
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.						



RECEIVED: March 04, 2015

KERR-McGEE OIL & GAS ONSHORE LP

Blackhawk Drilling Program

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION	LTC / DQX
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,410	28.00	IJ-55	LTC	2.23	1.67	5.89	N/A
								10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.33		3.88
	4-1/2"	5,000	to	10,096'	11.60	HCP-110	LTC	1.19	1.33	5.83	

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**				
Option 2	LEAD	1,910'	Premium cmt + 16% Gel + 10 pps gilsonite	230	35%	12.00	2.86
			+ 0.25 pps Flocele + 3% salt BWOC + GR 3 pps				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,826'	35/65 Poz/G + 0.25 pps celloflake + 0.4% HALAD-344 (PB)	300	35%	12.00	3.38
			+ 3 pps Silicalite + 0.35% HR-5 (PB) + 6% Bentonite +				
			0.1%SA-1015 (PB) + 1 pps Granulite TR 1/4 + 0.25 pps Kwik seal				
	TAIL	6,270'	50/50 Poz/G + 2% Bentonite + 0.25% HR-5 (PB)	1,480	35%	14.30	1.31
			+ 0.5% HALAD-344 (PB) + 0.2% Super CBL				
			+ 1 pps Granulite TR 1/4 + 0.25 pps Kwik seal				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

IF extreme mud losses are observed OR cement doesn't reach surface on a well on the pad, a DV Tool may be used. With Cement Baskets above and Below it.

DRILLING ENGINEER: Matt Stiasny/Toni Newville **DATE:**

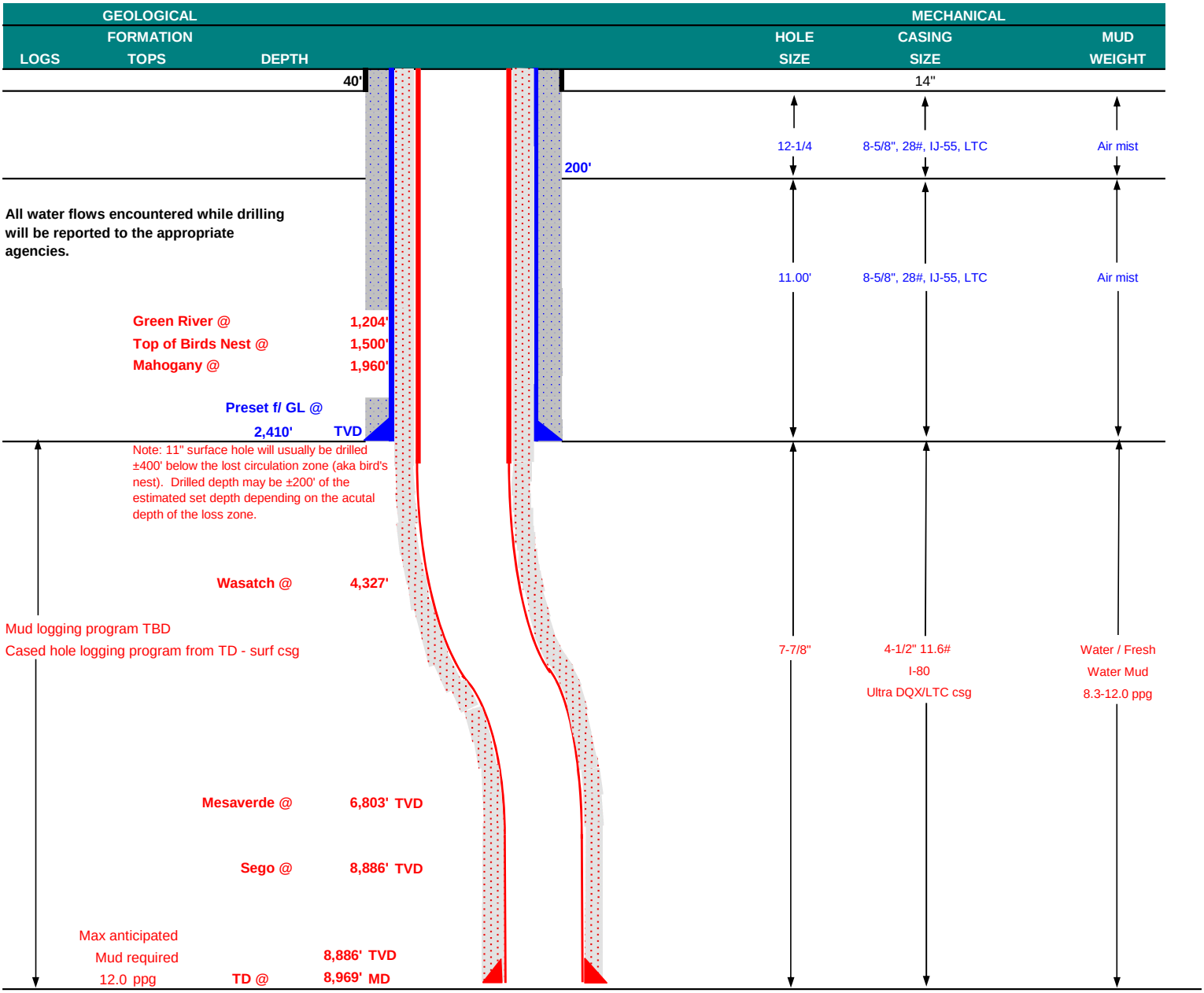
DRILLING SUPERINTENDENT: **DATE:**

RECEIVED: March 04, 2015

KERR-McGEE OIL & GAS ONSHORE LP

Wasatch/Mesaverde Drilling Program

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP			DATE	March 3, 2015
WELL NAME	**NBU 1022-9J1BS**			TD	8,886' TVD 8,969' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah		FINISHED ELEVATION 5,208'
SURFACE LOCATION	NWSE 1908 FSL 1802 FEL	Sec 9	T 10S	R 22E	
	Latitude: 39.961491	Longitude: -109.441784			NAD 83
BTM HOLE LOCATION	NWSE 2576 FSL 1794 FEL	Sec 9	T 10S	R 22E	
	Latitude: 39.963324	Longitude: -109.441761			NAD 83
OBJECTIVE ZONE(S)	Wasatch Formation/Mesaverde Group				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.				



NBU 1022-9J Pad

KerrMcGee

KERR-McGEE OIL & GAS ONSHORE LP

Wasatch/Mesaverde Drilling Program

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION LTC	TENSION DQX
CONDUCTOR	14"	0-40'									
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,410	28.00	IJ-55	LTC	2.23	1.67	5.89	N/A
								7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.15		3.14
								7,780	6,350	223,000	
	4-1/2"	5,000	to	8,969'	11.60	I-80	LTC	1.11	1.15	5.93	

Surface Casing:

(Burst Assumptions: TD = 12.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.61 psi/ft = bottomhole gradient

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CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**				
Option 2	LEAD	1,910'	Premium cmt + 16% Gel + 10 pps gilsonite	230	35%	12.00	2.86
			+ 0.25 pps Flocele + 3% salt BWOC + GR 3 pps				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps Flocele + 3% salt BWOC + GR 3 pps				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,819'	35/65 Poz/G + 0.25 pps celloflake + 0.4% HALAD-344 (PB)	300	35%	12.00	3.38
			+ 3 pps Silicalite + 0.35% HR-5 (PB) + 6% Bentonite +				
			0.1%SA-1015 (PB) + 1 pps Granulite TR 1/4 + 0.25 pps Kwik seal				
	TAIL	5,150'	50/50 Poz/G + 2% Bentonite + 0.25% HR-5 (PB)	1,220	35%	14.30	1.31
			+ 0.5% HALAD-344 (PB) + 0.2% Super CBL				
			+ 1 pps Granulite TR 1/4 + 0.25 pps Kwik seal				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

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BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

IF extreme mud losses are observed OR cement doesn't reach surface on a well on the pad, a DV Tool may be used. With Cement Baskets above and Below it.

DRILLING ENGINEER: _____ **DATE:** _____

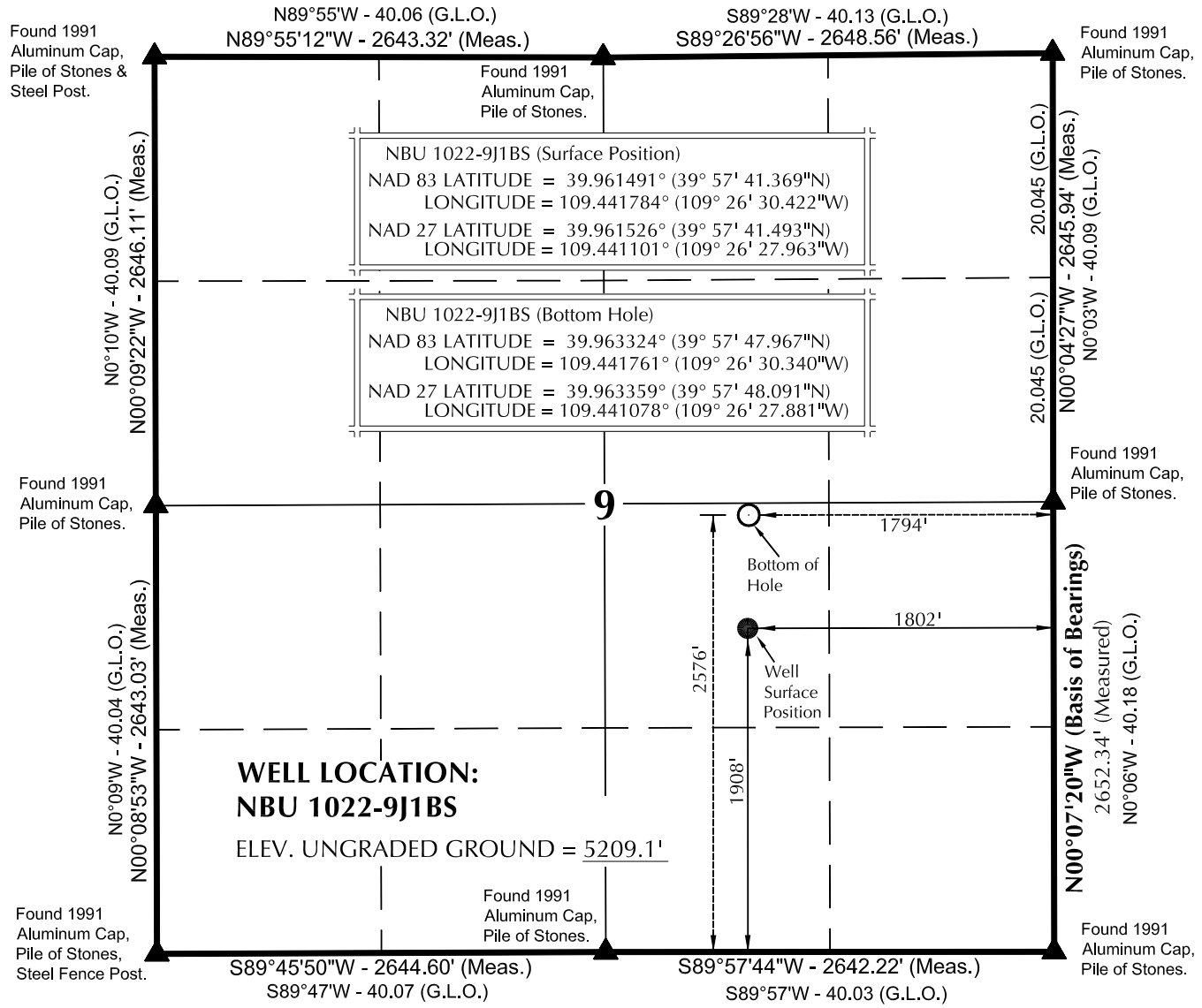
Matt Stiasny/Toni Newville

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Lovel Young

RECEIVED: March 04, 2015

T10S, R22E, S.L.B.&M.



NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines. G.L.O. distances are shown in feet or chains.
2. 1 chain = 66 feet.
3. The Bottom of hole bears N00°31'56"E 667.90' from the Surface Position.
4. NAD 83 Latitude & Longitude are (CORS 96)(EPOCH:2002).
5. Bearings and Distances are based upon a Local Cartesian Grid, oriented to Geodetic North at the North 1/4 Corner of Section 8, T10S, R22E, S.L.B.&M. The Grid having a mean project height of 5300'. Lineal units used are U.S. Survey Foot.
6. Basis of elevation is Tri-Sta "Two Water" located in Lot 4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

N

1000' 500' 0' 1000'

SCALE

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

2-27-15

PROFESSIONAL LAND SURVEYOR
REGISTRATION NO. 6028691
STATE OF UTAH

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-9J

NBU 1022-9J1BS
WELL PLAT
2576' FSL, 1794' FEL (Bottom Hole)
NW ¼ SE ¼ OF SECTION 9, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE ENGINEERING & LAND SURVEYING, INC.
(435) 789-1365
209 NORTH 300 WEST - VERNAL, UTAH 84078

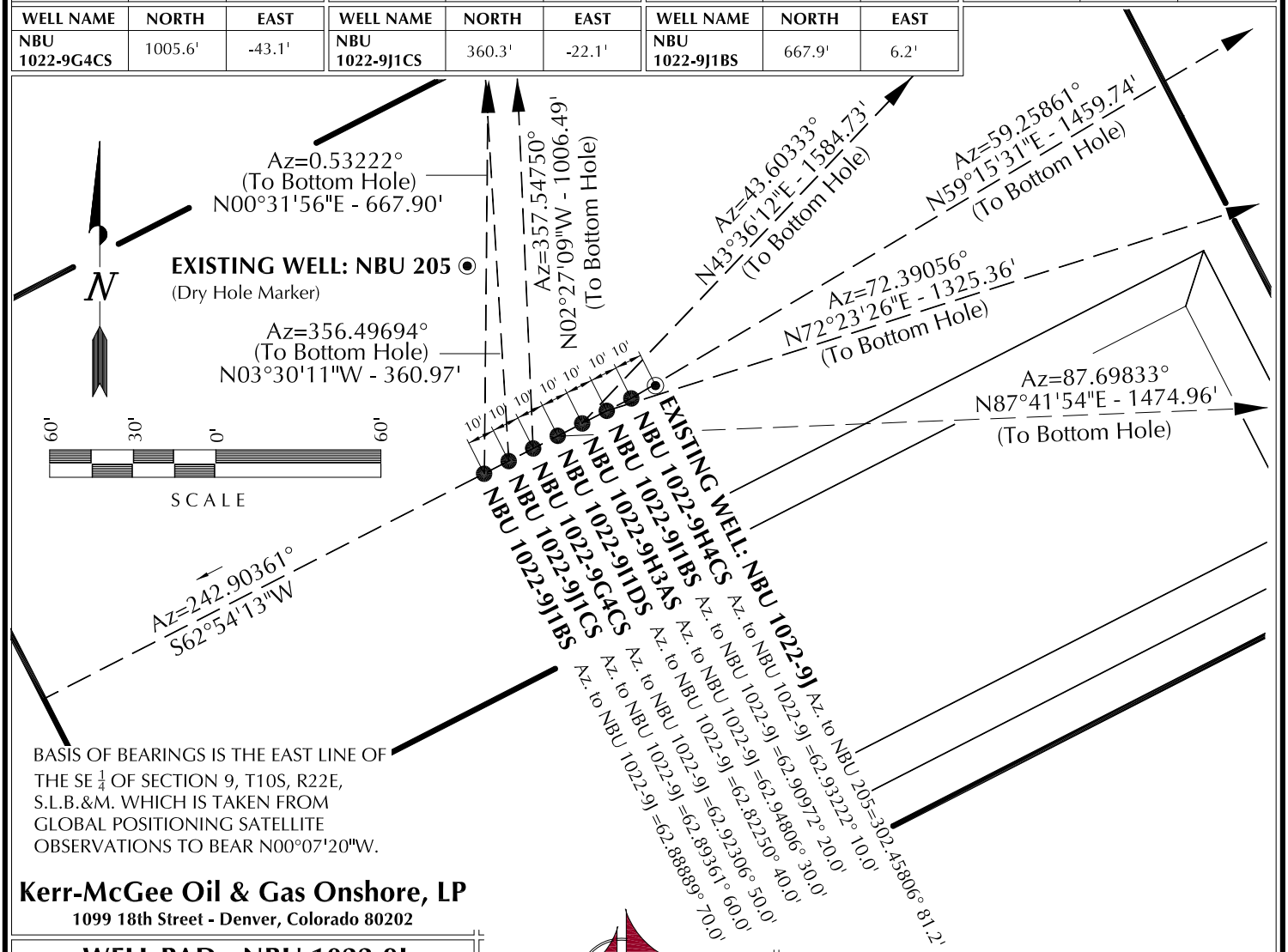
DATE SURVEYED: 2-24-15	SURVEYED BY: N.H.	SHEET NO: 7
DATE DRAWN: 2-25-15	DRAWN BY: D.A.	7 OF 19
SCALE: 1" = 1000'	Date Last Revised:	

API Well Number: 43047552670000

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1022-9H4CS	39°57'41.639"N 39.961566°N	109°26'29.736"W 109.441593°W	39°57'41.763"N 39.961601°N	109°26'27.278"W 109.440911°W	1935' FSL 1748' FEL	39°57'49.007"N 39.963613°N	109°26'13.625"W 109.437118°W	39°57'49.131"N 39.963648°N	109°26'11.167"W 109.436435°W	2613' FNL 492' FEL
NBU 1022-9I1BS	39°57'41.594"N 39.961554°N	109°26'29.851"W 109.441625°W	39°57'41.718"N 39.961588°N	109°26'27.392"W 109.440942°W	1931' FSL 1757' FEL	39°57'45.552"N 39.962653°N	109°26'13.630"W 109.437119°W	39°57'45.676"N 39.962688°N	109°26'11.172"W 109.436437°W	2331' FSL 493' FEL
NBU 1022-9H3AS	39°57'41.549"N 39.961541°N	109°26'29.965"W 109.441657°W	39°57'41.673"N 39.961576°N	109°26'27.507"W 109.440974°W	1926' FSL 1766' FEL	39°57'52.884"N 39.964690°N	109°26'15.929"W 109.437758°W	39°57'53.008"N 39.964724°N	109°26'13.470"W 109.437075°W	2219' FNL 671' FEL
NBU 1022-9I1DS	39°57'41.503"N 39.961529°N	109°26'30.079"W 109.441689°W	39°57'41.627"N 39.961563°N	109°26'27.620"W 109.441006°W	1922' FSL 1775' FEL	39°57'42.084"N 39.961690°N	109°26'11.157"W 109.436432°W	39°57'42.208"N 39.961725°N	109°26'8.699"W 109.435750°W	1980' FSL 301' FEL
NBU 1022-9G4CS	39°57'41.459"N 39.961516°N	109°26'30.194"W 109.441721°W	39°57'41.583"N 39.961551°N	109°26'27.735"W 109.441038°W	1917' FSL 1784' FEL	39°57'51.394"N 39.964276°N	109°26'30.744"W 109.441873°W	39°57'51.518"N 39.964311°N	109°26'28.285"W 109.441190°W	2359' FNL 1825' FEL
NBU 1022-9J1CS	39°57'41.414"N 39.961504°N	109°26'30.307"W 109.441752°W	39°57'41.538"N 39.961538°N	109°26'27.849"W 109.441069°W	1913' FSL 1793' FEL	39°57'44.973"N 39.962493°N	109°26'30.590"W 109.441830°W	39°57'45.097"N 39.962527°N	109°26'28.131"W 109.441147°W	2273' FSL 1814' FEL
NBU 1022-9J1BS	39°57'41.369"N 39.961491°N	109°26'30.422"W 109.441784°W	39°57'41.493"N 39.961526°N	109°26'27.963"W 109.441101°W	1908' FSL 1802' FEL	39°57'47.967"N 39.963324°N	109°26'30.340"W 109.441761°W	39°57'48.091"N 39.963359°N	109°26'27.881"W 109.441078°W	2576' FSL 1794' FEL
NBU 1022-9J	39°57'41.683"N 39.961579°N	109°26'29.622"W 109.441562°W	39°57'41.808"N 39.961613°N	109°26'27.164"W 109.440879°W	1940' FSL 1739' FEL					
NBU 205	39°57'42.114"N 39.961698°N	109°26'30.502"W 109.441806°W	39°57'42.238"N 39.961733°N	109°26'28.043"W 109.441123°W	1984' FSL 1808' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-9H4CS	746.2'	1254.6'	NBU 1022-9I1BS	401.0'	1263.3'	NBU 1022-9H3AS	1147.6'	1092.9'	NBU 1022-9I1DS	59.2'	1473.8'
NBU 1022-9G4CS	1005.6'	-43.1'	NBU 1022-9J1CS	360.3'	-22.1'	NBU 1022-9J1BS	667.9'	6.2'			



BASIS OF BEARINGS IS THE EAST LINE OF THE SE $\frac{1}{4}$ OF SECTION 9, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°07'20"W.

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-9J

WELL PAD INTERFERENCE PLAT

WELLS - NBU 1022-9H4CS, NBU 1022-9I1BS, NBU 1022-9H3AS, NBU 1022-9I1DS,NBU 1022-9G4CS, NBU 1022-9J1CS & NBU 1022-9J1BS LOCATED IN SECTION 9, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 06-17-13	SURVEYED BY: J.W.	SHEET NO: 8
DATE DRAWN: 07-16-13	DRAWN BY: J.G.C.	8 OF 19
SCALE: 1" = 60'	Date Last Revised: 2-25-15 D.A.	

RECEIVED: March 04, 2015

API Well Number: 43047552670000

PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

PROPOSED 4" SURFACE GAS PIPELINE RE-ROUTE

EXISTING POND

RESERVE PIT & EXCESS CUT STOCKPILE

TOPSOIL STOCKPILE

CLASS D COUNTY ROAD

EXISTING WELL PAD

N59°15'31"E - 1459.74' (TO BOTTOM HOLE)

N72°23'26"E - 1325.36' (TO BOTTOM HOLE)

N87°41'54"E - 1474.96' (TO BOTTOM HOLE)

N43°36'12"E - 1584.73' (TO BOTTOM HOLE)

N00°31'56"E - 667.90' (TO BOTTOM HOLE)

N02°27'09"W - 1006.49' (TO BOTTOM HOLE)

N03°30'11W - 360.97' (TO BOTTOM HOLE)

EXISTING WELL: NBU 1022-9J

NBU 1022-9H4CS

NBU 1022-9I1BS

NBU 1022-9H3AS

NBU 1022-9I1DS

NBU 1022-9G4CS

NBU 1022-9J1CS

NBU 1022-9J1BS

EXISTING WELL: NBU 205 (PLUGGED AND ABANDONED)

BOILER

DIESEL TANK

GENERATOR

MUD PUMP 1

MUD PUMP 2

MUD TANK

SKID TANK

WATER TANK

PIPERACKS

PIPETUBS

EXISTING SEPARATOR

DERRICK STAND

EXISTING TANK AND BERM

RESERVE PIT 12' DEPTH SLOPE 1.5:1

RESERVE PIT & EXCESS CUT STOCKPILE

MOVE EXISTING SPOILS PILE TO PROPOSED LOCATION

EXISTING 4" SURFACE GAS PIPELINE

EXISTING 16" GAS 6" LIQUID

BURIED 10" GAS 6" (MAX.) LIQUID

CLASS D COUNTY ROAD

PROPOSED 12" EXPANSION LOOP RE-ROUTE

PROPOSED 8" EXPANSION LOOP RE-ROUTE

REMOVE EXPANSION LOOPS

CONSTRUCT DIVERSION DITCH (AS NEEDED)

CUT

FILL

WELL PAD - NBU 1022-9J DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5208.9'
FINISHED GRADE ELEVATION = 5208.3'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.42 ACRES
TOTAL DISTURBANCE AREA = 5.53 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 17,027 C.Y.
TOTAL FILL FOR WELL PAD = 2,261 C.Y.
TOPSOIL @ 6" DEPTH = 1,732 C.Y.
EXCESS MATERIAL = 14,766 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 11,020 C.Y.
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 42,290 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

HORIZONTAL 0 30' 60' 1" = 60'
2' CONTOURS

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-9J

WELL PAD - LOCATION LAYOUT
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9J1CS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078
(435) 789-1365

SCALE: 1"=60' | DATE: 7/25/13 | SHEET NO: 9 (9 OF 19)
REVISED: JID 2/26/15

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\DWGS\NBU 1022-9J.dwg, 2/27/2015 5:03:57 PM, jacob

RECEIVED: March 04, 2015

API Well Number: 43047552670000

PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

PROPOSED 4" SURFACE GAS PIPELINE RE-ROUTE

EXISTING POND

COMPLETIONS PIT & EXCESS CUT STOCKPILE

TOPSOIL STOCKPILE

CLASS D COUNTY ROAD

EXISTING WELL PAD

REMOVE EXPANSION LOOPS

EXISTING 16" GAS 6" LIQUID

BURIED 10" GAS 6" (MAX.) LIQUID

PROPOSED 12" EXPANSION LOOP RE-ROUTE

PROPOSED 8" EXPANSION LOOP RE-ROUTE

EXISTING 4" SURFACE GAS PIPELINE

CONSTRUCT DIVERSION DITCH (AS NEEDED)

MOVE EXISTING SPOILS PILE TO PROPOSED LOCATION

EXISTING WELL: NBU 1022-9J
NBU 1022-9H4CS
NBU 1022-9I1BS
NBU 1022-9H3AS
NBU 1022-9I1DS
NBU 1022-9G4CS
NBU 1022-9J1CS
NBU 1022-9J1BS

EXISTING WELL: NBU 205 (PLUGGED AND ABANDONED)

N59°15'31"E - 1459.74' (TO BOTTOM HOLE)
N72°23'26"E - 1325.36' (TO BOTTOM HOLE)
N87°41'54"E - 1474.96' (TO BOTTOM HOLE)
N43°36'12"E - 1584.73' (TO BOTTOM HOLE)
N00°31'56"E - 667.90' (TO BOTTOM HOLE)
N02°27'09"W - 1006.49' (TO BOTTOM HOLE)
N03°30'11W - 360.97' (TO BOTTOM HOLE)

WELL PAD - NBU 1022-9J (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5208.9'
FINISHED GRADE ELEVATION = 5208.3'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.42 ACRES
TOTAL DISTURBANCE AREA = 5.53 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-9J

WELL PAD - LOCATION LAYOUT
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9J1CS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 17,027 C.Y.
TOTAL FILL FOR WELL PAD = 2,261 C.Y.
TOPSOIL @ 6" DEPTH = 1,732 C.Y.
EXCESS MATERIAL = 14,766 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT
+/- 8,870 C.Y.
COMPLETIONS PIT CAPACITY
(2' OF FREEBOARD)
+/- 33,770 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

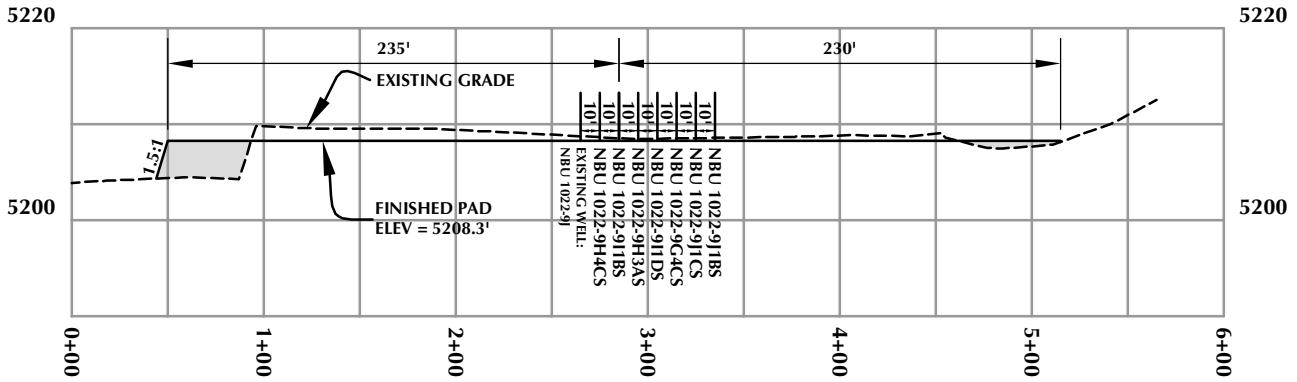
HORIZONTAL 0 30' 60' 1" = 60'
2' CONTOURS

TIMBERLINE ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078 (435) 789-1365

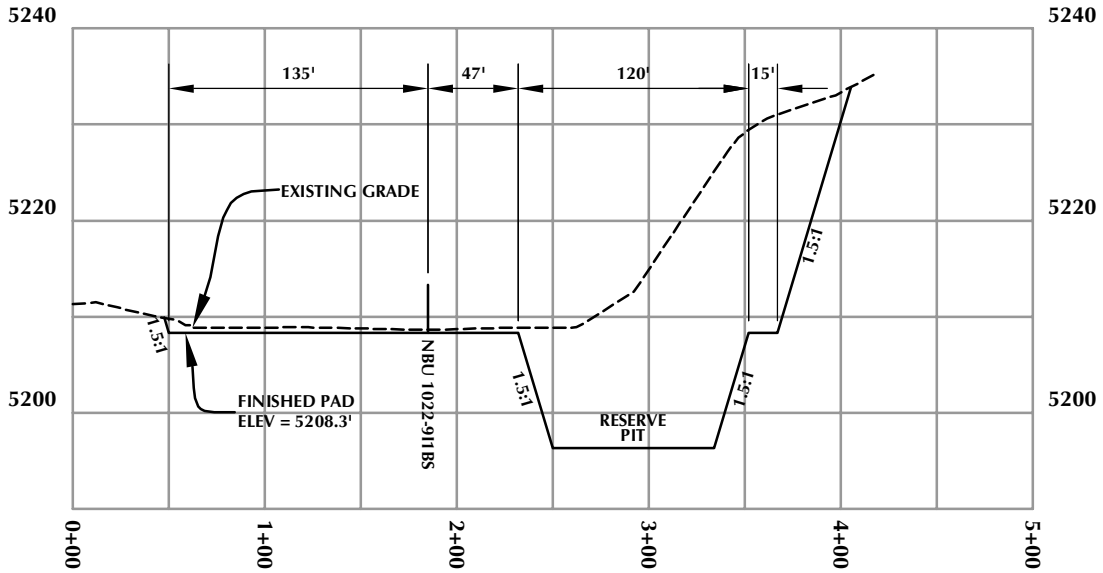
SCALE: 1"=60' | DATE: 11/18/13 | SHEET NO: 9B 9B OF 19
REVISED: JID 2/26/15

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\DWGS\NBU 1022-9J.dwg, 2/27/2015 5:04:07 PM, jacob

RECEIVED: March 04, 2015



CROSS SECTION A-A'



CROSS SECTION B-B'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-9J

WELL PAD - CROSS SECTIONS
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9J1CS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

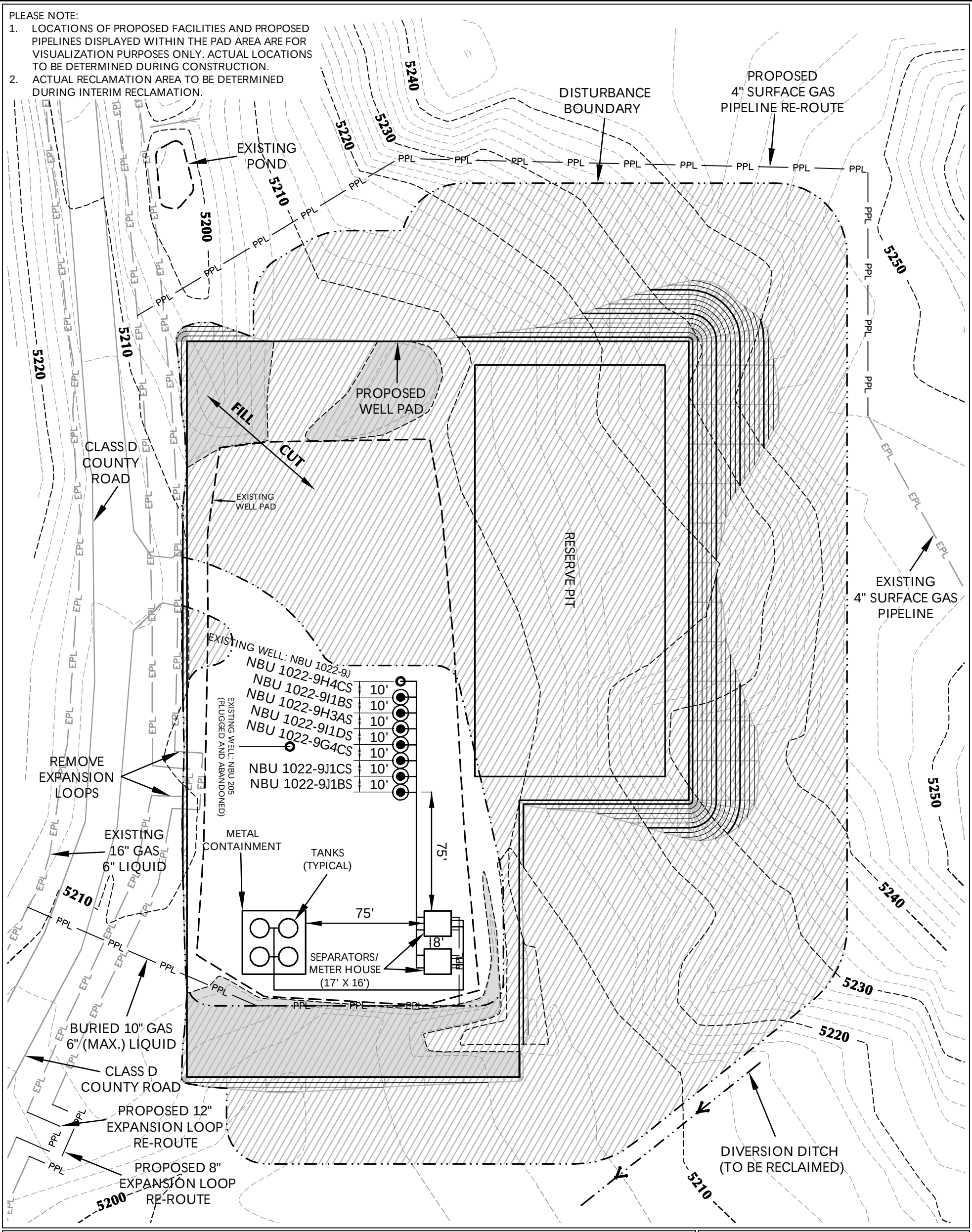
SCALE: 1"=100' | DATE: 7/25/13 | SHEET NO: 10 10 OF 19
REVISED: JID 2/26/15

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\DWGS\NBU 1022-9J\NBU 1022-9J.dwg, 2/27/2015 4:34:36 PM, teagan

RECEIVED: March 04, 2015

API Well Number: 43047552670000

PLEASE NOTE:
1. LOCATIONS OF PROPOSED FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.
2. ACTUAL RECLAMATION AREA TO BE DETERMINED DURING INTERIM RECLAMATION.



WELL PAD - NBU 1022-9J RECLAMATION DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 5.53 ACRES (INCLUDING EXISTING)
RECLAMATION AREA = 4.52 ACRES
TOTAL WELL PAD AREA AFTER RECLAMATION = 1.01 ACRES

WELL PAD LEGEND
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE
- RECLAMATION AREA

HORIZONTAL 0 30' 60' 1" = 60'
2' CONTOURS

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-9J

WELL PAD - RECLAMATION LAYOUT
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9J1CS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
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TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SCALE: 1"=60' | DATE: 7/25/13 | SHEET NO: 11 11 OF 19
REVISED: JID 2/26/15

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\DWGS\NBU 1022-9J\NBU 1022-9J.dwg, 2/27/2015 5:04:20 PM, jacob

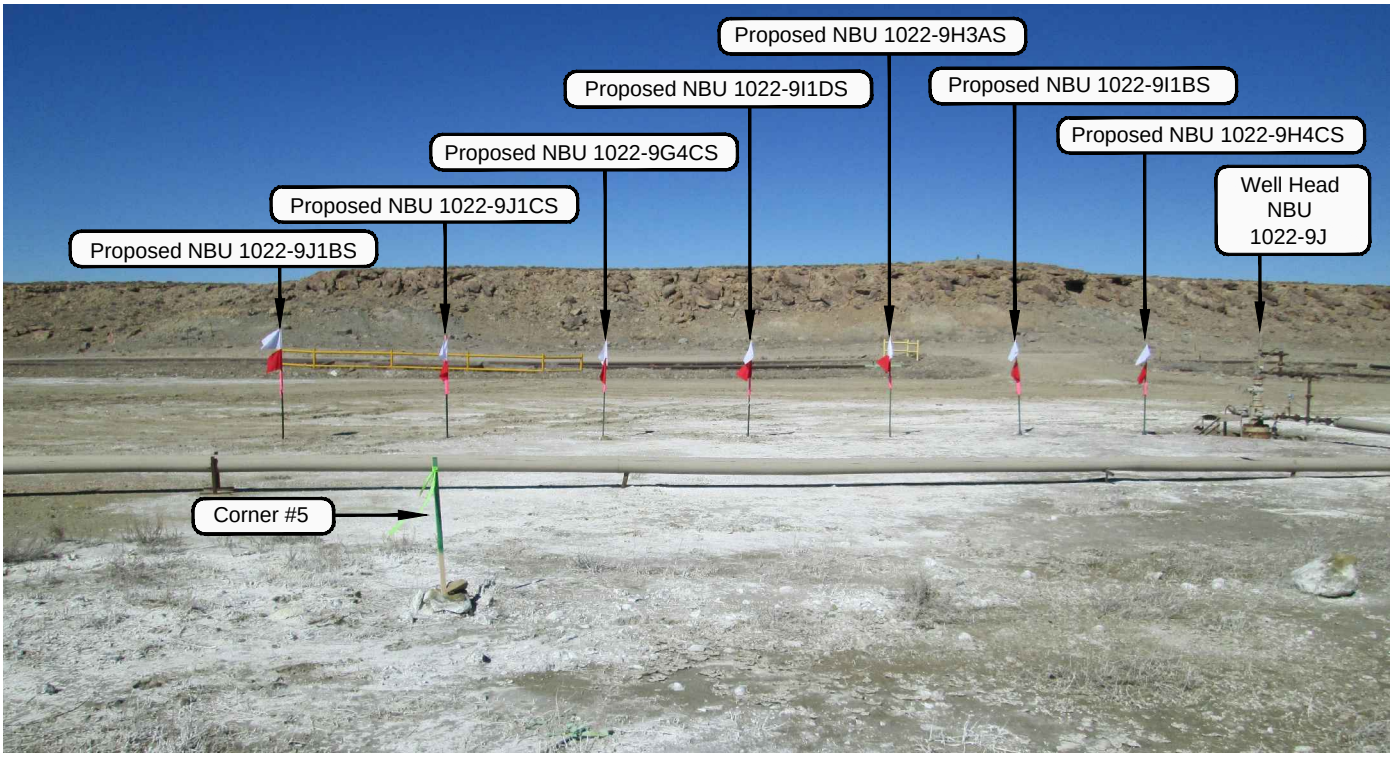


PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE **CAMERA ANGLE: NORTHERLY**

PHOTO VIEW: FROM EXISTING ACCESS ROAD **CAMERA ANGLE: SOUTHWESTERLY**

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-9J

LOCATION PHOTOS
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9J1CS, NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH.

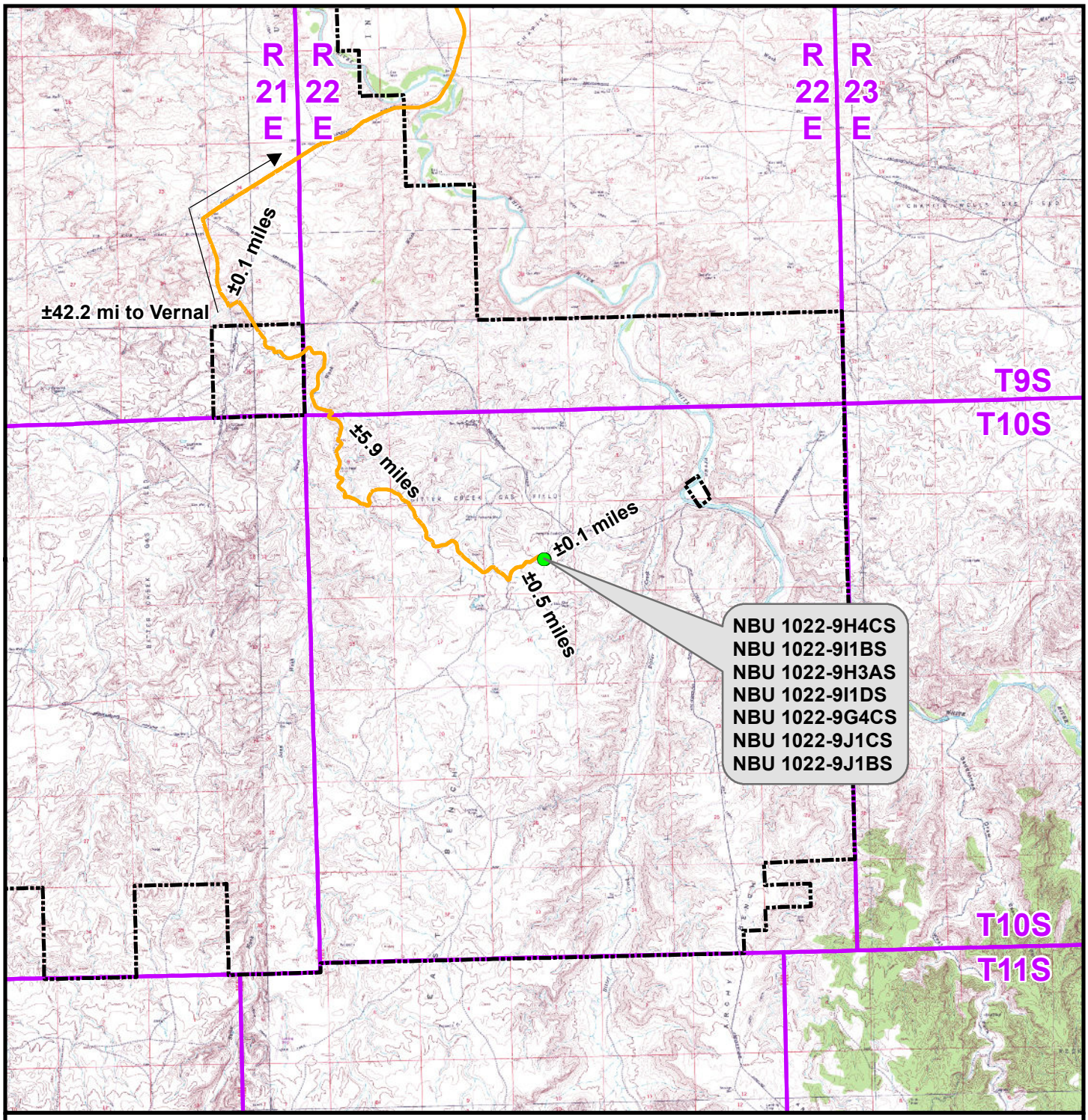
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE ENGINEERING & LAND SURVEYING, INC. (435) 789-1365
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 06-17-13	PHOTOS TAKEN BY: J.W.	SHEET NO: 12
DATE DRAWN: 07-16-13	DRAWN BY: J.G.C.	
Date Last Revised: 2-25-15 D.A.		12 OF 19

RECEIVED: March 04, 2015

API Well Number: 43047552670000



Legend

Distance From Well Pad - NBU 1022-9J To Unit Boundary: ±9,179ft

Proposed Well Location

Natural Buttes Unit Boundary

Access Route - Proposed

WELL PAD - NBU 1022-9J

TOPO A
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9JICS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

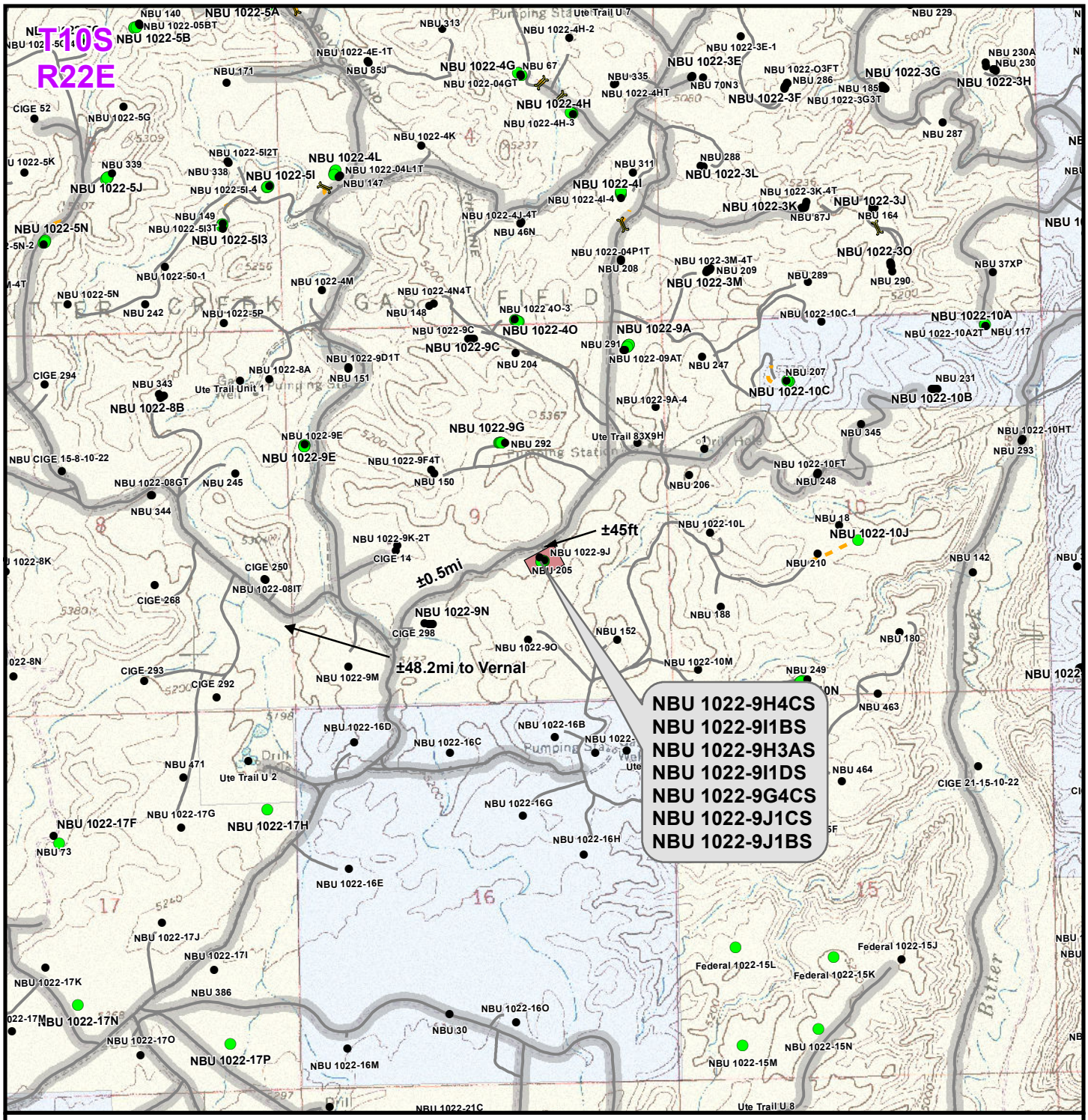
609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1:100,000	NAD83 USP Central	SHEET NO: 13
DRAWN: TL	DATE: 26 July 2013	13 OF 19
REVISED: CPS	DATE: 27 Feb 2015	

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\GIS\Maps_ABCDE\NBU 1022-9J\NBU 1022-9J_A.mxd2/27/2015 9:05:08 AM

RECEIVED: March 04, 2015



Legend

Well - Proposed | Well Pad | Road - Proposed | County Road | Bureau of Land Management | State
Well - Existing | Road - Existing | Culvert/LWC - Proposed | Indian Reservation | Private

Total Proposed Road Length: ±0ft

WELL PAD - NBU 1022-9J

TOPO B
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9JICS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

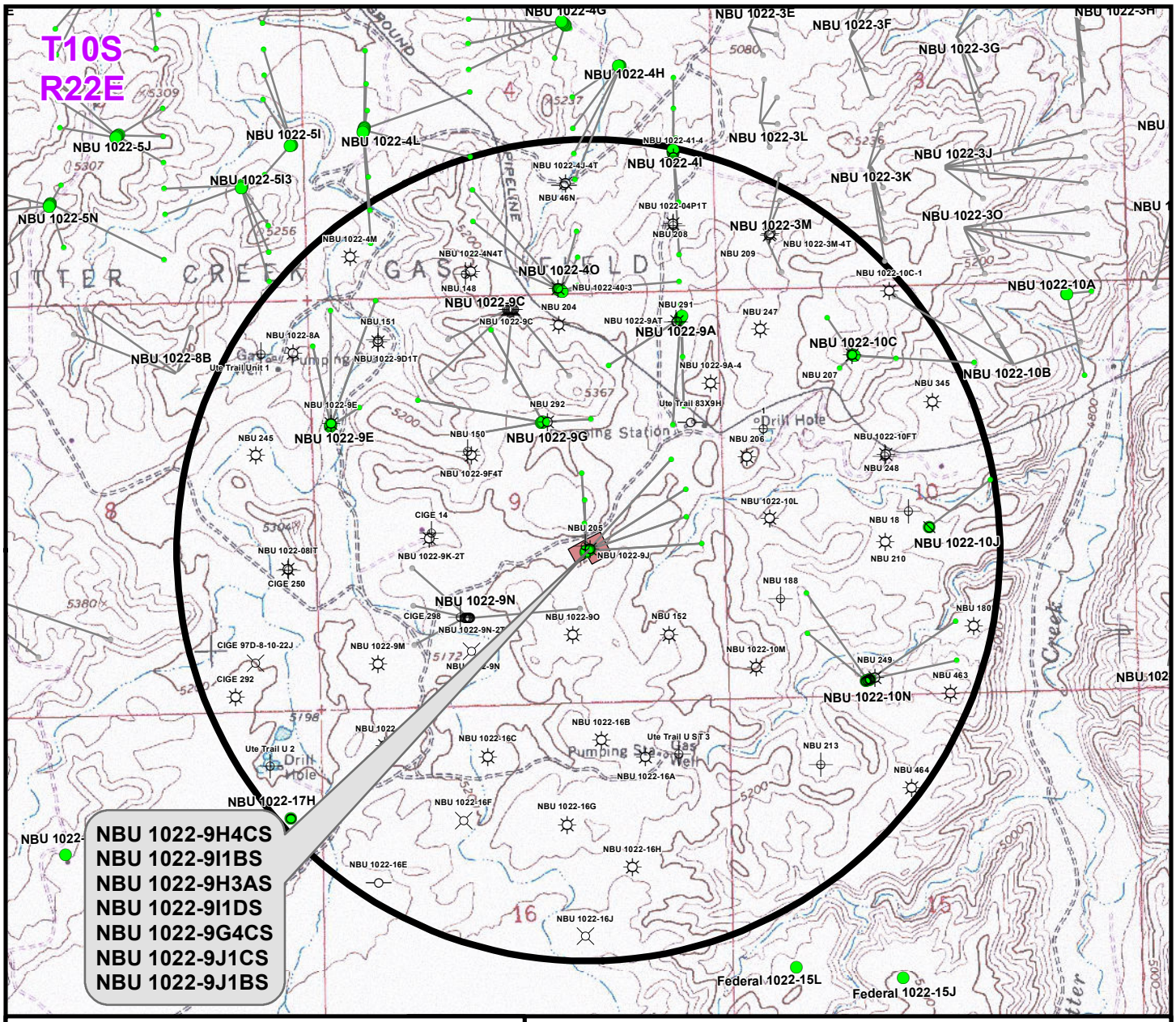
N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 14
DRAWN: TL	DATE: 22 July 2013	14 OF 19
REVISED: CPS	DATE: 27 Feb 2015	

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\GIS\Maps_ABCDE\NBU 1022-9J\NBU 1022-9J_B.mxd2/27/2015 9:11:05 AM

RECEIVED: March 04, 2015

API Well Number: 43047552670000



Well locations derived from Utah Division of Oil, Gas and Mining (UDOGM) (oilgas.ogm.utah.gov). The estimated distances from proposed bore locations to the nearest existing bore locations are based on UDOGM data.

Proposed Well	Nearest Well Bore	Footage
NBU 1022-9H4CS	Ute Trail 83X9H	±873ft
NBU 1022-9I1BS	NBU 1022-10L	±1,069ft
NBU 1022-9H3AS	Ute Trail 83X9H	±543ft
NBU 1022-9I1DS	NBU 1022-10L	±924ft
NBU 1022-9G4CS	NBU 292	±790ft
NBU 1022-9J1CS	NBU 292	±290ft
NBU 1022-9J1BS	NBU 292	±592ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Well - 1 Mile Radius
- Producing
- Spudded
- APD Approved
- Preliminary Location
- Deferred
- Cancelled
- Temporarily Abandoned
- Active Injector
- Location Abandoned
- Plugged & Abandoned
- Shut-In

WELL PAD - NBU 1022-9J

TOPO C
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9JICS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

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Denver, Colorado 80202

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2155 North Main Street
Sheridan, Wyoming 82801
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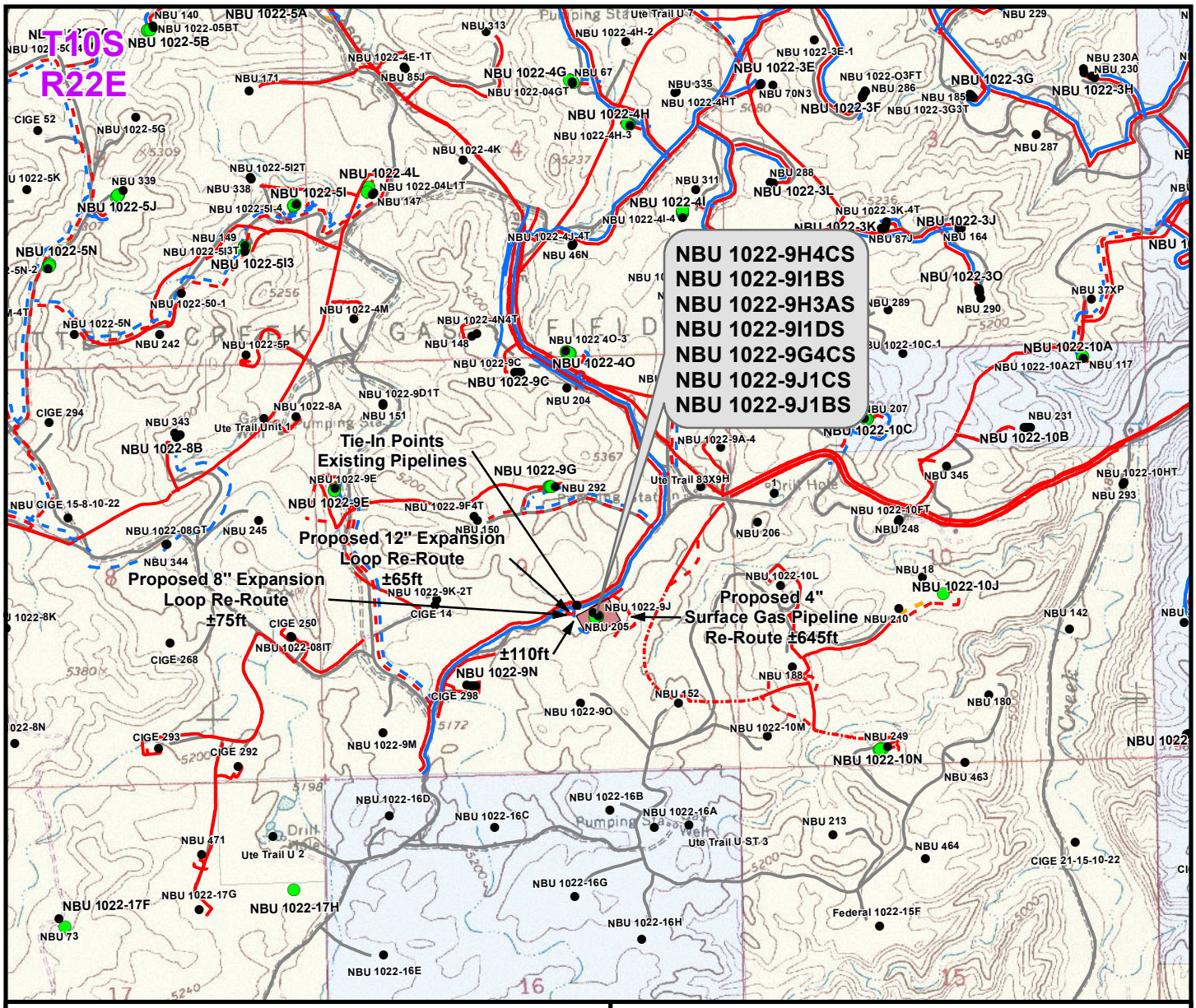
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 15
DRAWN: TL	DATE: 18 Nov 2013	15 OF 19
REVISED: CPS	DATE: 27 Feb 2015	

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\GIS\Maps_ABCDE\NBU 1022-9J\NBU 1022-9J_C.mxd2/27/2015 9:31:10 AM

RECEIVED: March 04, 2015



Proposed Liquid Pipeline	Length
Buried 6" (Max.) (Separator to Edge of Pad)	±180ft
Buried 6" (Max.) (Edge of Pad to Existing 6" Liquid Pipeline)	±110ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±290ft

Proposed Gas Pipeline	Length
Buried 10" (Meter House to Edge of Pad)	±180ft
Buried 10" (Edge of Pad to Existing 16" Gas Pipeline)	±110ft
Surface 4" (Proposed Pipeline Re-Route)	±645ft
Surface 8" (Expansion Loop Re-Route)	±75ft
Surface 12" (Expansion Loop Re-Route)	±65ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±290ft
TOTAL PROPOSED SURFACE GAS PIPELINE =	±785ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

WELL PAD - NBU 1022-9J

TOPO D
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9JICS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 16
DRAWN: TL	DATE: 18 Nov 2013	16 OF 19
REVISED: CPS	DATE: 27 Feb 2015	

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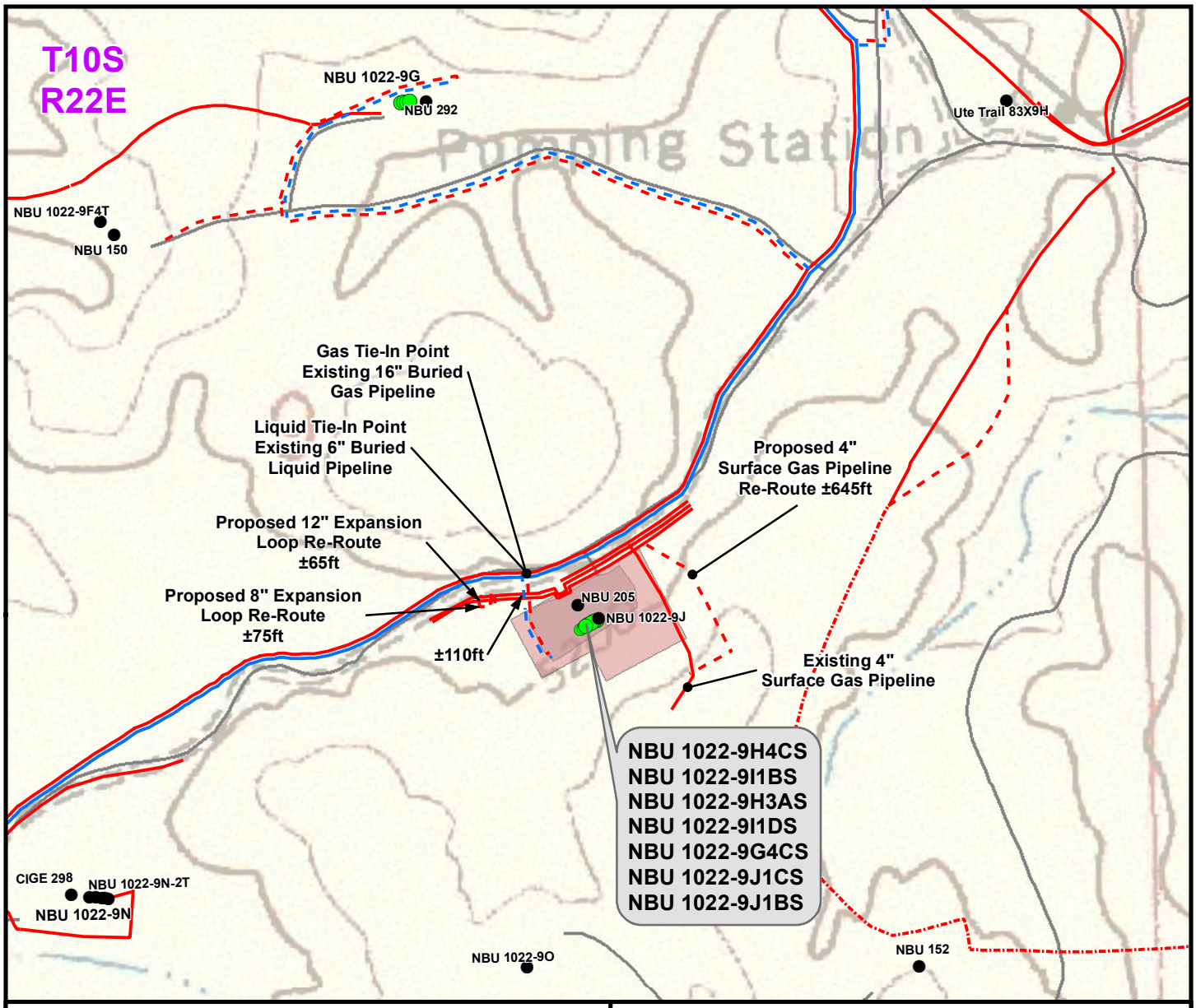
RECEIVED: March 04, 2015



Proposed Liquid Pipeline	Length
Buried 6" (Max.) (Separator to Edge of Pad)	±180ft
Buried 6" (Max.) (Edge of Pad to Existing 6" Liquid Pipeline)	±110ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =	±290ft

Proposed Gas Pipeline	Length
Buried 10" (Meter House to Edge of Pad)	±180ft
Buried 10" (Edge of Pad to Existing 16" Gas Pipeline)	±110ft
Surface 4" (Proposed Pipeline Re-Route)	±645ft
Surface 8" (Expansion Loop Re-Route)	±75ft
Surface 12" (Expansion Loop Re-Route)	±65ft
TOTAL PROPOSED BURIED GAS PIPELINE =	±290ft
TOTAL PROPOSED SURFACE GAS PIPELINE =	±785ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad - Proposed
- Well Pad - Existing
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

WELL PAD - NBU 1022-9J

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9JICS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 500ft	NAD83 USP Central	SHEET NO: 17
DRAWN: TL	DATE: 26 June 2013	17 OF 19
REVISED: CPS	DATE: 27 Feb 2015	

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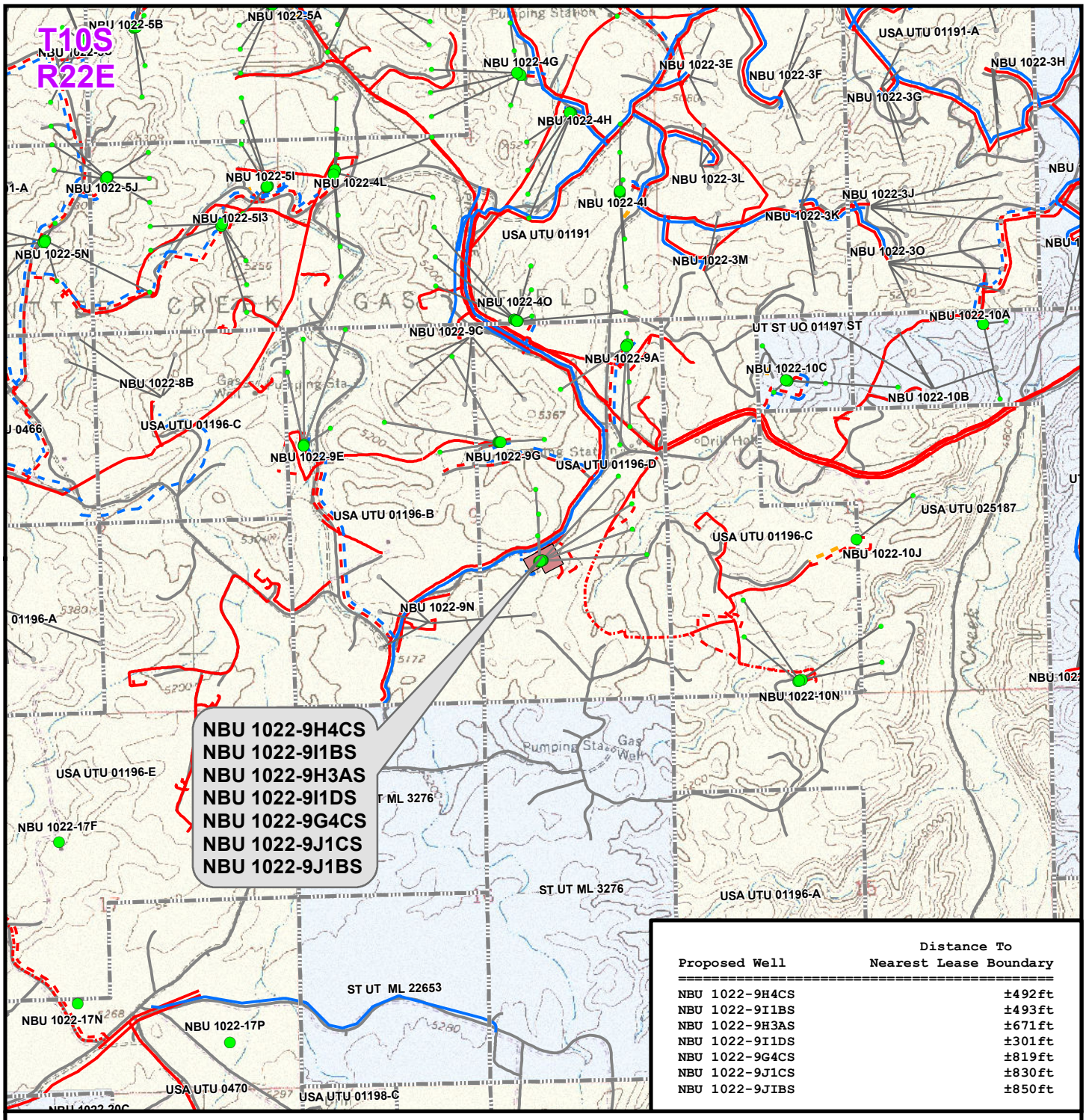

Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-9H4CS	±492ft
NBU 1022-9I1BS	±493ft
NBU 1022-9H3AS	±671ft
NBU 1022-9I1DS	±301ft
NBU 1022-9G4CS	±819ft
NBU 1022-9J1CS	±830ft
NBU 1022-9JIBS	±850ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

WELL PAD - NBU 1022-9J

TOPO E
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9JICS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 18
DRAWN: TL	DATE: 18 Nov 2013	18 OF 19
REVISED: CPS	DATE: 27 Feb 2015	

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RECEIVED: March 04, 2015

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1022-9J
WELLS - NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS & NBU 1022-9G4CS,
NBU 1022-9J1CS & NBU 1022-9J1BS
SECTION 9, T10S, R22E, S.L.B.&M.
UINTAH COUNTY, UTAH

From the intersection of U.S. Highway 40 and 500 East street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45; exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.7 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road to the southeast. Exit right and proceed in a southeasterly direction along the second Class D County Road approximately 5.9 miles to a third Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the third Class D County Road approximately 0.5 miles to a service road to the southeast. Exit right and proceed in a southeasterly direction along the service road approximately 45 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 48.7 miles in a southerly direction.

RECEIVED: March 04, 2015

API Well Number: 43047552670000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-9J PAD
Well: NBU 1022-9J1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.70°

Magnetic Field
Strength: 51818.4snT
Dip Angle: 65.74°
Date: 3/2/2015
Model: BGGM2014

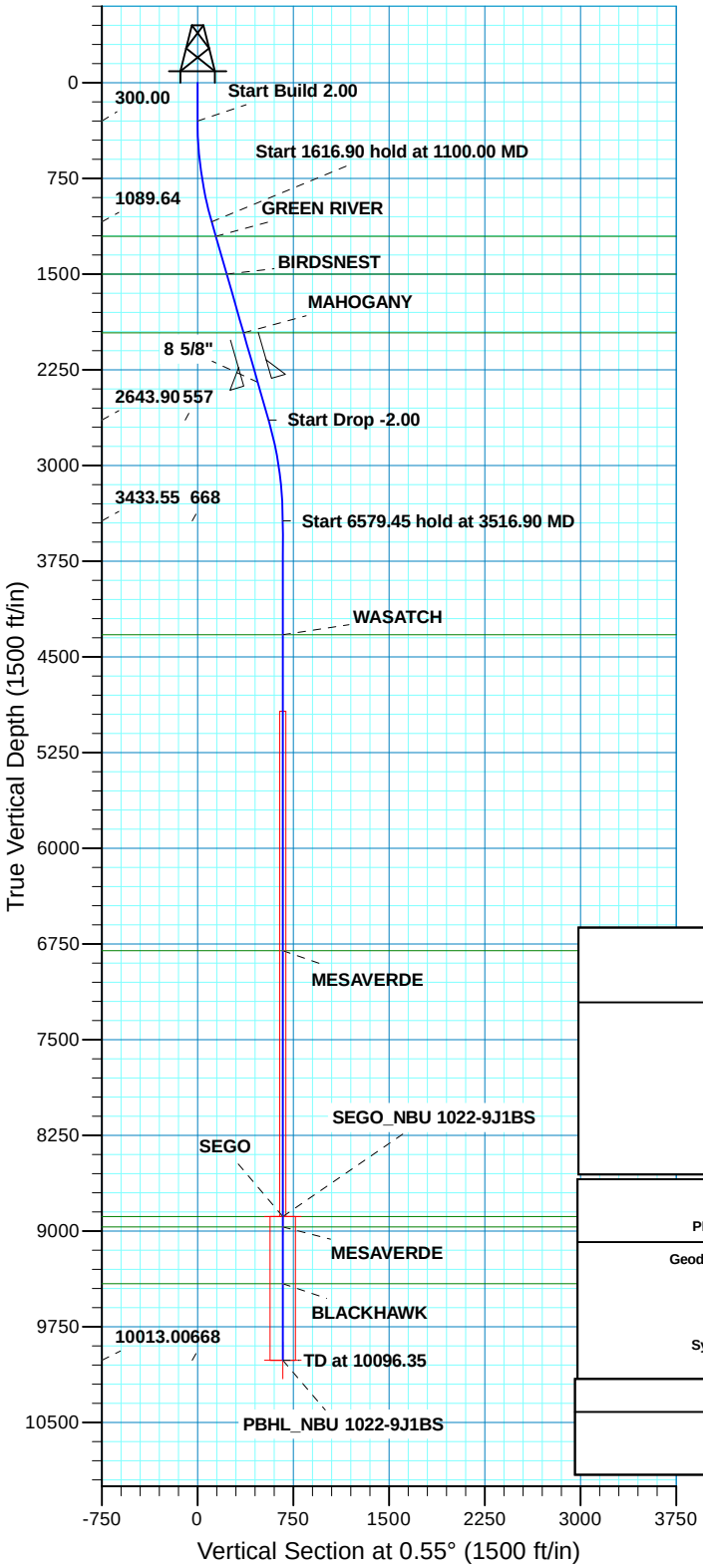
WELL DETAILS: NBU 1022-9J1BS

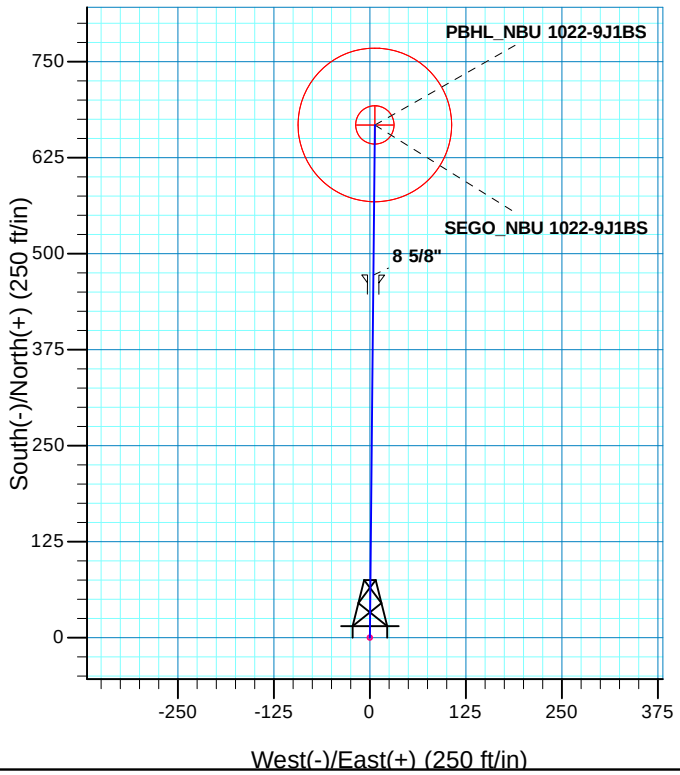
GL 5208 & KB 4 @ 5212.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14515852.09	2077253.74	39.9615260	-109.4411010

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	8886.00	667.60	6.45	14516519.70	2077248.52	39.9633590	-109.4410780	Circle (Radius: 25.00)
	- plan hits target center							
PBHL	10013.00	667.60	6.45	14516519.70	2077248.52	39.9633590	-109.4410780	Circle (Radius: 100.00)
	- plan hits target center							





SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1100.00	16.00	0.55	1089.64	110.97	1.07	2.00	0.55	110.98	
2716.90	16.00	0.55	2643.90	556.63	5.38	0.00	0.00	556.65	
3516.90	0.00	0.00	3433.55	667.60	6.45	2.00	180.00	667.63	
10096.35	0.00	0.00	10013.00	667.60	6.45	0.00	0.00	667.63	PBHL_NBU 1022-9J1BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 9 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1204.00	1218.97	GREEN RIVER
1500.00	1526.89	BIRDSNEST
1960.00	2005.43	MAHOGANY
4327.00	4410.35	WASATCH
6803.00	6886.35	MESAVERDE
8886.00	8969.35	SEGO
8968.00	9051.35	MESAVERDE
9413.00	9496.35	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2348.90	2410.00	8 5/8"	8.625

RECEIVE

Plan: PLAN #1 PRELIMINARY (NBU 1022-9J1BS/OH)

Created By: RobertScott Date: 17:23, March 03 2015

API Well Number: 43047552670000

Anadarko Petroleum Corporation

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
NBU 1022-9J PAD
NBU 1022-9J1BS

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

03 March, 2015

Scientific Drilling

RECEIVED: March 04, 2015

Anadarko Petroleum Corporation

Planning Report

Scientific Drilling

Database:	Denver Sales	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Site:	NBU 1022-9J PAD	**North Reference:**	True
Well:	NBU 1022-9J1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site NBU 1022-9J PAD, SECTION 9 T10S R22E

Site Position:		**Northing:**	14,515,880.34 usft	**Latitude:**	39.9616010
From:	Lat/Long	**Easting:**	2,077,306.51 usft	**Longitude:**	-109.4409110
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.00 °

Well NBU 1022-9J1BS, 1908 FSL 1802 FEL

Well Position	**+N/-S**	-27.32 ft	**Northing:**	14,515,852.10 usft	**Latitude:**	39.9615260
	+E/-W	-53.25 ft	**Easting:**	2,077,253.74 usft	**Longitude:**	-109.4411010
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	5,208.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	3/2/2015	10.70	65.74	51,818

Design PLAN #1 PRELIMINARY

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.55

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	16.00	0.55	1,089.64	110.97	1.07	2.00	2.00	0.00	0.55	
2,716.90	16.00	0.55	2,643.90	556.63	5.38	0.00	0.00	0.00	0.00	
3,516.90	0.00	0.00	3,433.55	667.60	6.45	2.00	-2.00	0.00	180.00	
10,096.35	0.00	0.00	10,013.00	667.60	6.45	0.00	0.00	0.00	0.00	PBHL_NBU 1022-9J1

Anadarko Petroleum Corporation

Planning Report

Scientific Drilling

Database:	Denver Sales	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Site:	NBU 1022-9J PAD	**North Reference:**	True
Well:	NBU 1022-9J1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	0.55	399.98	1.75	0.02	1.75	2.00	2.00	0.00
500.00	4.00	0.55	499.84	6.98	0.07	6.98	2.00	2.00	0.00
600.00	6.00	0.55	599.45	15.69	0.15	15.69	2.00	2.00	0.00
700.00	8.00	0.55	698.70	27.88	0.27	27.88	2.00	2.00	0.00
800.00	10.00	0.55	797.47	43.52	0.42	43.52	2.00	2.00	0.00
900.00	12.00	0.55	895.62	62.60	0.60	62.60	2.00	2.00	0.00
1,000.00	14.00	0.55	993.06	85.09	0.82	85.10	2.00	2.00	0.00
1,100.00	16.00	0.55	1,089.64	110.97	1.07	110.98	2.00	2.00	0.00
Start 1616.90 hold at 1100.00 MD									
1,200.00	16.00	0.55	1,185.77	138.53	1.34	138.54	0.00	0.00	0.00
1,218.97	16.00	0.55	1,204.00	143.76	1.39	143.77	0.00	0.00	0.00
GREEN RIVER									
1,300.00	16.00	0.55	1,281.90	166.10	1.60	166.10	0.00	0.00	0.00
1,400.00	16.00	0.55	1,378.02	193.66	1.87	193.67	0.00	0.00	0.00
1,500.00	16.00	0.55	1,474.15	221.22	2.14	221.23	0.00	0.00	0.00
1,526.89	16.00	0.55	1,500.00	228.63	2.21	228.64	0.00	0.00	0.00
BIRDSNEST									
1,600.00	16.00	0.55	1,570.27	248.78	2.40	248.80	0.00	0.00	0.00
1,700.00	16.00	0.55	1,666.40	276.35	2.67	276.36	0.00	0.00	0.00
1,800.00	16.00	0.55	1,762.53	303.91	2.93	303.92	0.00	0.00	0.00
1,900.00	16.00	0.55	1,858.65	331.47	3.20	331.49	0.00	0.00	0.00
2,000.00	16.00	0.55	1,954.78	359.03	3.47	359.05	0.00	0.00	0.00
2,005.43	16.00	0.55	1,960.00	360.53	3.48	360.55	0.00	0.00	0.00
MAHOGANY									
2,100.00	16.00	0.55	2,050.90	386.60	3.73	386.61	0.00	0.00	0.00
2,200.00	16.00	0.55	2,147.03	414.16	4.00	414.18	0.00	0.00	0.00
2,300.00	16.00	0.55	2,243.16	441.72	4.27	441.74	0.00	0.00	0.00
2,400.00	16.00	0.55	2,339.28	469.28	4.53	469.31	0.00	0.00	0.00
2,410.00	16.00	0.55	2,348.90	472.04	4.56	472.06	0.00	0.00	0.00
8 5/8"									
2,500.00	16.00	0.55	2,435.41	496.85	4.80	496.87	0.00	0.00	0.00
2,600.00	16.00	0.55	2,531.54	524.41	5.06	524.43	0.00	0.00	0.00
2,700.00	16.00	0.55	2,627.66	551.97	5.33	552.00	0.00	0.00	0.00
2,716.90	16.00	0.55	2,643.90	556.63	5.38	556.65	0.00	0.00	0.00
Start Drop -2.00									
2,800.00	14.34	0.55	2,724.11	578.37	5.59	578.40	2.00	-2.00	0.00
2,900.00	12.34	0.55	2,821.41	601.44	5.81	601.47	2.00	-2.00	0.00
3,000.00	10.34	0.55	2,919.45	621.10	6.00	621.13	2.00	-2.00	0.00
3,100.00	8.34	0.55	3,018.12	637.32	6.15	637.35	2.00	-2.00	0.00
3,200.00	6.34	0.55	3,117.30	650.09	6.28	650.12	2.00	-2.00	0.00
3,300.00	4.34	0.55	3,216.86	659.39	6.37	659.42	2.00	-2.00	0.00
3,400.00	2.34	0.55	3,316.68	665.22	6.42	665.25	2.00	-2.00	0.00
3,500.00	0.34	0.55	3,416.65	667.55	6.45	667.58	2.00	-2.00	0.00
3,516.90	0.00	0.00	3,433.55	667.60	6.45	667.63	2.00	-2.00	0.00
Start 6579.45 hold at 3516.90 MD									
3,600.00	0.00	0.00	3,516.65	667.60	6.45	667.63	0.00	0.00	0.00
3,700.00	0.00	0.00	3,616.65	667.60	6.45	667.63	0.00	0.00	0.00
3,800.00	0.00	0.00	3,716.65	667.60	6.45	667.63	0.00	0.00	0.00

Anadarko Petroleum Corporation

Planning Report

Scientific Drilling

Database:	Denver Sales	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Site:	NBU 1022-9J PAD	**North Reference:**	True
Well:	NBU 1022-9J1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,900.00	0.00	0.00	3,816.65	667.60	6.45	667.63	0.00	0.00	0.00
4,000.00	0.00	0.00	3,916.65	667.60	6.45	667.63	0.00	0.00	0.00
4,100.00	0.00	0.00	4,016.65	667.60	6.45	667.63	0.00	0.00	0.00
4,200.00	0.00	0.00	4,116.65	667.60	6.45	667.63	0.00	0.00	0.00
4,300.00	0.00	0.00	4,216.65	667.60	6.45	667.63	0.00	0.00	0.00
4,400.00	0.00	0.00	4,316.65	667.60	6.45	667.63	0.00	0.00	0.00
4,410.35	0.00	0.00	4,327.00	667.60	6.45	667.63	0.00	0.00	0.00
WASATCH									
4,500.00	0.00	0.00	4,416.65	667.60	6.45	667.63	0.00	0.00	0.00
4,600.00	0.00	0.00	4,516.65	667.60	6.45	667.63	0.00	0.00	0.00
4,700.00	0.00	0.00	4,616.65	667.60	6.45	667.63	0.00	0.00	0.00
4,800.00	0.00	0.00	4,716.65	667.60	6.45	667.63	0.00	0.00	0.00
4,900.00	0.00	0.00	4,816.65	667.60	6.45	667.63	0.00	0.00	0.00
5,000.00	0.00	0.00	4,916.65	667.60	6.45	667.63	0.00	0.00	0.00
5,100.00	0.00	0.00	5,016.65	667.60	6.45	667.63	0.00	0.00	0.00
5,200.00	0.00	0.00	5,116.65	667.60	6.45	667.63	0.00	0.00	0.00
5,300.00	0.00	0.00	5,216.65	667.60	6.45	667.63	0.00	0.00	0.00
5,400.00	0.00	0.00	5,316.65	667.60	6.45	667.63	0.00	0.00	0.00
5,500.00	0.00	0.00	5,416.65	667.60	6.45	667.63	0.00	0.00	0.00
5,600.00	0.00	0.00	5,516.65	667.60	6.45	667.63	0.00	0.00	0.00
5,700.00	0.00	0.00	5,616.65	667.60	6.45	667.63	0.00	0.00	0.00
5,800.00	0.00	0.00	5,716.65	667.60	6.45	667.63	0.00	0.00	0.00
5,900.00	0.00	0.00	5,816.65	667.60	6.45	667.63	0.00	0.00	0.00
6,000.00	0.00	0.00	5,916.65	667.60	6.45	667.63	0.00	0.00	0.00
6,100.00	0.00	0.00	6,016.65	667.60	6.45	667.63	0.00	0.00	0.00
6,200.00	0.00	0.00	6,116.65	667.60	6.45	667.63	0.00	0.00	0.00
6,300.00	0.00	0.00	6,216.65	667.60	6.45	667.63	0.00	0.00	0.00
6,400.00	0.00	0.00	6,316.65	667.60	6.45	667.63	0.00	0.00	0.00
6,500.00	0.00	0.00	6,416.65	667.60	6.45	667.63	0.00	0.00	0.00
6,600.00	0.00	0.00	6,516.65	667.60	6.45	667.63	0.00	0.00	0.00
6,700.00	0.00	0.00	6,616.65	667.60	6.45	667.63	0.00	0.00	0.00
6,800.00	0.00	0.00	6,716.65	667.60	6.45	667.63	0.00	0.00	0.00
6,886.35	0.00	0.00	6,803.00	667.60	6.45	667.63	0.00	0.00	0.00
MESAVERDE									
6,900.00	0.00	0.00	6,816.65	667.60	6.45	667.63	0.00	0.00	0.00
7,000.00	0.00	0.00	6,916.65	667.60	6.45	667.63	0.00	0.00	0.00
7,100.00	0.00	0.00	7,016.65	667.60	6.45	667.63	0.00	0.00	0.00
7,200.00	0.00	0.00	7,116.65	667.60	6.45	667.63	0.00	0.00	0.00
7,300.00	0.00	0.00	7,216.65	667.60	6.45	667.63	0.00	0.00	0.00
7,400.00	0.00	0.00	7,316.65	667.60	6.45	667.63	0.00	0.00	0.00
7,500.00	0.00	0.00	7,416.65	667.60	6.45	667.63	0.00	0.00	0.00
7,600.00	0.00	0.00	7,516.65	667.60	6.45	667.63	0.00	0.00	0.00
7,700.00	0.00	0.00	7,616.65	667.60	6.45	667.63	0.00	0.00	0.00
7,800.00	0.00	0.00	7,716.65	667.60	6.45	667.63	0.00	0.00	0.00
7,900.00	0.00	0.00	7,816.65	667.60	6.45	667.63	0.00	0.00	0.00
8,000.00	0.00	0.00	7,916.65	667.60	6.45	667.63	0.00	0.00	0.00
8,100.00	0.00	0.00	8,016.65	667.60	6.45	667.63	0.00	0.00	0.00
8,200.00	0.00	0.00	8,116.65	667.60	6.45	667.63	0.00	0.00	0.00
8,300.00	0.00	0.00	8,216.65	667.60	6.45	667.63	0.00	0.00	0.00
8,400.00	0.00	0.00	8,316.65	667.60	6.45	667.63	0.00	0.00	0.00
8,500.00	0.00	0.00	8,416.65	667.60	6.45	667.63	0.00	0.00	0.00
8,600.00	0.00	0.00	8,516.65	667.60	6.45	667.63	0.00	0.00	0.00
8,700.00	0.00	0.00	8,616.65	667.60	6.45	667.63	0.00	0.00	0.00
8,800.00	0.00	0.00	8,716.65	667.60	6.45	667.63	0.00	0.00	0.00

Anadarko Petroleum Corporation

Planning Report

Scientific Drilling

Database:	Denver Sales	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Site:	NBU 1022-9J PAD	**North Reference:**	True
Well:	NBU 1022-9J1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,900.00	0.00	0.00	8,816.65	667.60	6.45	667.63	0.00	0.00	0.00
8,969.35	0.00	0.00	8,886.00	667.60	6.45	667.63	0.00	0.00	0.00
SEGO - SEGO_NBU 1022-9J1BS									
9,000.00	0.00	0.00	8,916.65	667.60	6.45	667.63	0.00	0.00	0.00
9,051.35	0.00	0.00	8,968.00	667.60	6.45	667.63	0.00	0.00	0.00
MESAVERDE									
9,100.00	0.00	0.00	9,016.65	667.60	6.45	667.63	0.00	0.00	0.00
9,200.00	0.00	0.00	9,116.65	667.60	6.45	667.63	0.00	0.00	0.00
9,300.00	0.00	0.00	9,216.65	667.60	6.45	667.63	0.00	0.00	0.00
9,400.00	0.00	0.00	9,316.65	667.60	6.45	667.63	0.00	0.00	0.00
9,496.35	0.00	0.00	9,413.00	667.60	6.45	667.63	0.00	0.00	0.00
BLACKHAWK									
9,500.00	0.00	0.00	9,416.65	667.60	6.45	667.63	0.00	0.00	0.00
9,600.00	0.00	0.00	9,516.65	667.60	6.45	667.63	0.00	0.00	0.00
9,700.00	0.00	0.00	9,616.65	667.60	6.45	667.63	0.00	0.00	0.00
9,800.00	0.00	0.00	9,716.65	667.60	6.45	667.63	0.00	0.00	0.00
9,900.00	0.00	0.00	9,816.65	667.60	6.45	667.63	0.00	0.00	0.00
10,000.00	0.00	0.00	9,916.65	667.60	6.45	667.63	0.00	0.00	0.00
10,096.35	0.00	0.00	10,013.00	667.60	6.45	667.63	0.00	0.00	0.00
TD at 10096.35 - PBHL_NBU 1022-9J1BS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SEGO_NBU 1022-9J1B - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,886.00	667.60	6.45	14,516,519.71	2,077,248.52	39.9633590	-109.4410780
PBHL_NBU 1022-9J1BS - plan hits target center - Circle (radius 100.00)	0.00	0.00	10,013.00	667.60	6.45	14,516,519.71	2,077,248.52	39.9633590	-109.4410780

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,410.00	2,348.90	8 5/8"	8.625	11.000

Anadarko Petroleum Corporation

Planning Report

Scientific Drilling

Database:	Denver Sales	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5208 & KB 4 @ 5212.00ft (ASSUMED)
Site:	NBU 1022-9J PAD	**North Reference:**	True
Well:	NBU 1022-9J1BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,218.97	1,204.00	GREEN RIVER			
1,526.89	1,500.00	BIRDSNEST			
2,005.43	1,960.00	MAHOGANY			
4,410.35	4,327.00	WASATCH			
6,886.35	6,803.00	MESAVERDE			
8,969.35	8,886.00	SEGO		0.00	
9,051.35	8,968.00	MESAVERDE		0.00	
9,496.35	9,413.00	BLACKHAWK		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,100.00	1,089.64	110.97	1.07	Start 1616.90 hold at 1100.00 MD
2,716.90	2,643.90	556.63	5.38	Start Drop -2.00
3,516.90	3,433.55	667.60	6.45	Start 6579.45 hold at 3516.90 MD
10,096.35	10,013.00	667.60	6.45	TD at 10096.35

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Kerr-McGee Oil & Gas Onshore. L.P.

NBU 1022-9J PAD

API #				
	NBU 1022-9G4CS			
	Surface:	1917 FSL / 1784 FEL	NWSE	Lot
	BHL:	2359 FNL / 1825 FEL	SWNE	Lot
API #	**NBU 1022-9H3AS**			
	Surface:	1926 FSL / 1766 FEL	NWSE	Lot
	BHL:	2219 FNL / 671 FEL	SENE	Lot
API #	**NBU 1022-9H4CS**			
	Surface:	1935 FSL / 1748 FEL	NWSE	Lot
	BHL:	2613 FNL / 492 FEL	SENE	Lot
API #	**NBU 1022-9I1BS**			
	Surface:	1931 FSL / 1757 FEL	NWSE	Lot
	BHL:	2331 FSL / 493 FEL	NESE	Lot
API #	**NBU 1022-9I1DS**			
	Surface:	1922 FSL / 1775 FEL	NWSE	Lot
	BHL:	1980 FSL / 301 FEL	NESE	Lot
API #	**NBU 1022-9J1CS**			
	Surface:	1913 FSL / 1793 FEL	NWSE	Lot
	BHL:	2273 FSL / 1814 FEL	NWSE	Lot
API #	**NBU 1022-9J1BS**			
	Surface:	1908 FSL / 1802 FEL	NWSE	Lot
	BHL:	2576 FSL / 1794 FEL	NWSE	Lot

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on October 23,2013. Present were:

- Tyler Cox and Jessi Brunson - BLM;
- Mitch Batty - Timberline Engineering & Land Surveying, Inc.; and
- Cara Mahler, Kenny Warren, Casey McKee, Chantill Recker, Doreen Green, and Howdy Brown - Kerr-McGee

A. Existing Roads:

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Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Please refer to Topo B for existing roads.

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B. New or Reconstructed Access Roads:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

No new access road is proposed

C. Location of Existing Wells:

Please refer to Topo C for exiting wells.

D. Location of Existing and/or Proposed Facilities:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

This pad will expand the existing pad for the NBU 1022-9J, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on January 9, 2014. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

GAS GATHERING

Please refer to Exhibit A and Topo D2- Pad and Pipeline Detail.

The total gas gathering pipeline distance from the meter to the tie in point is ±290’ and ±785 of proposed pipeline re-route the individual segments are broken up as follows:

The following segments are "onlease", no ROW needed.

±180’ (0.03 miles) – Section 9 T10S R22E (NW/4 SE/4) – On-lease UTU01196-D, BLM surface, New 10” buried gas gathering pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±110’ (0.02 miles) – Section 9 T10S R22E (NW/4 SE/4) – On-lease UTU01196-D, BLM surface, New 10” buried gas gathering pipeline from the edge of the pad traversing northerly to an existing 16" gas pipeline. Please refer to Topo D2 -Pad and Pipeline Detail and Exhibit A - Line No. 2.

±645’ (0.12 miles) – Section 9 T10S R22E (NW/4 SE/4) – On-lease UTU01196-D, BLM surface, New 4” surface pipeline re-route around easterly edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±75’ (0.01 miles) – Section 9 T10S R22E (NW/4 SE/4) – On-lease UTU01196-D, BLM surface, New 8” surface expansion loop re-route on existing pipeline west of the pad. Please refer to Topo D2 - Pad and Pipeline Detail and Exhibit A - Line No. 12.

±65’ (0.01 miles) – Section 9 T10S R22E (NW/4 SE/4) – On-lease UTU01196-D, BLM surface, New 12” surface expansion loop re-route on existing pipeline west of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

LIQUID GATHERING

Please refer to Exhibit B and Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is ±290’ and the individual segments are broken up as follows:

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The following segments are "onlease", no ROW needed.

±180' (0.03 miles) – Section 9 T10S R22E (NW/4 SE/4) – On-lease UTU01196-D, BLM surface, New 6" buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±110' (0.02 miles) – Section 9 T10S R22E (NW/4 SE/4) – On-lease UTU01196-D, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad traversing northerly to an existing 6" liquid pipeline. Please refer to Topo D2 - Pad and Pipeline Detail and Exhibit B - Line No. 2.

Pipeline Gathering Construction

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

The Anadarko Completions Transportation System (ACTS) information:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Please refer to Exhibit C for ACTS Lines

E. Location and Types of Water Supply:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Water will be hauled to location over the roads marked on Maps A and B.

F. Construction Materials:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

G. Methods for Handling Waste:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Materials Management

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

I. Well Site Layout:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

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J. Plans for Surface Reclamation:

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Interim Reclamation

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Final Reclamation

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Measures Common to Interim and Final Reclamation

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Weed Control

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Monitoring

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

K. Surface/Mineral Ownership:

United States of America
Bureau of Land Management
170 South 500 East
Vernal, UT 84078
(435)781-4400

L. Other Information:

Cultural and Paleontological Resources

Please refer to the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

Resource Reports:

A Class I literature survey was completed on August 7, 2013 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 13-208.

A paleontological reconnaissance survey was completed on July 23, 2013 by SWCA Environmental Consultants. For additional details please refer to report UT13-14314-136.

Biological field survey was completed on July 27, 2013 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-909.

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Proposed Action Annual Emissions Tables:

Please refer to the Appendix in the Standard Operating Practices on file at the BLM Vernal Field Office dated October 31, 2012.

M. Lessee's or Operators' Representative & Certification:

Joel Malefyt
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6828

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Joel Malefyt

January 15, 2014
Date

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Kerr-McGee Oil & Gas Onshore L.P., wholly owned subsidiary of Anadarko Petroleum Corporation, Standard Operating Practice Agreement for the Greater Natural Buttes Field

Drilling Program

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations, Onshore Oil and Gas Orders, and the approved plan of operation. As Operator, KMG is fully responsible for actions of subcontractors. A copy of these Standard Operating Practices will be furnished to the field representatives to insure compliance.

Bureau of Land Management Notification Requirements:

Location Constructions: At least 48 hours prior to construction of location and access roads including notification, if applicable, to other surface management agencies, such as Ute Tribe Energy and Mineral Department, State of Utah, or private surface owner(s).

Location Completion: Prior to moving on the drilling rig

Spud Notice: At least 24 hours prior to spudding the well.

Casing String and Cementing: At least 24 hours prior to running casing and cementing all casing.

Blow Out Preventer & Related Equipment Tests: At least 24 hours prior to initiating pressure tests.

First Production Notice: Within 5 days after a new well begins production; or, within 5 days of when production resumes after a well has been off production for more than 90 days.

Details of the on-site inspection, including date, time, weather conditions, and individuals present, will be submitted with the site-specific Application for Permit to Drill (APD).

1. Estimated Tops of Important Geologic Markers:

Formation and depths will be submitted with site-specific APDs.

2. Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation and depths will be submitted with site-specific APDs.

3. Pressure Control Equipment:

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Pressure Control Equipment Schematic is attached as appendix F. Any variance will be included in the site-specific APDs.

4. Proposed Casing & Cementing Program:

Proposed casing and cementing will be submitted with site-specific APDs.

5. Drilling Fluids Program:

Proposed drilling fluids will be submitted with site-specific APDs.

6. Evaluation Program:

Evaluation program will be submitted with site-specific APDs.

7. Abnormal Conditions:

Any abnormal condition will be submitted with site specific APDs.

8. Anticipated Starting Dates:

Drilling is planned to commence within the administrative period of an approved application.

9. Variances:

KMG respectfully requests a variance to several requirements associated with air drilling outlined in OSO 2:

Variance for air drilling

Air rig is only used by KMG to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig and is used to drill and construct the majority of the wellbore.

KMG typically utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 3,200 MD. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig

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also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill an 11inch hole to just above the Bird's Nest Interval. with an air hammer. The hammer is then tripped and replaced with an 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

OSO 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump, which is located near the reserve pit, will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement)

OSO 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and

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boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, OSO 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Variance for FIT Requirements

KMG also respectfully requests a variance to OSO 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). These wells are not exploratory wells and are being drilled in an area where the formation integrity is well known.

10. Other Information:

Drilling Program will be submitted with site-specific APDs.

SURFACE USE PROGRAM

A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with OSO 1, KMG will improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing may be performed where excessive rutting or erosion may occur. Dust control may be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines may occupy common disturbance corridors where possible. Where available, roadways may be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor may overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Within individual APDs, please refer to Topo B, for existing roads.

B. New or Reconstructed Access Roads:

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All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007). The BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, KMG will adhere to all applicable US Army Corps of Engineers requirements in cooperation with the Utah Division of Water Rights.

New well pads or pad expansions may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met KMG may use unimproved and/or two-track roads for lease operations and to lessen total disturbance. Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities may be constructed to divert surface water runoff. Drainage features, including culverts, may be constructed or installed prior to commencing other operations, including drilling for facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s). Drainage features will meet the standards of the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007).

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activities will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement and construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

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Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

For individual APDs, refer to Topo B.

C. Location of Existing Wells:

For individual APDs, refer to Topo C

D. Location of Existing and/or Proposed Facilities:

The following will apply if the well is productive: Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (KMG). Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad.

A berm may be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed to hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project- specific APD, ROW or NOS submission.

Gas Gathering

The gas gathering pipeline is made of steel line pipe, surface is bare pipe and buried is of coated with fusion bonded epoxy coating (or equivalent). The individual segments will be denoted in site-specific APDs.

Liquid Gathering

The individual segments will be denoted in site-specific APDs.

Pipeline Gathering Construction

Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. The road and/or well pad may be utilized for construction activities and staging when the pipeline is adjacent to the road or well pad. The area of disturbance during construction from

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the edge of road or well pad and for surface and buried pipelines including cross country will typically be 45' temporary disturbance. In addition, KMG requests a permanent 30'disturbance width that will be maintained for the portion adjacent to the road as well as cross country lines. The need for the 30' of permanent disturbance width is for maintenance and repairs.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. If installation cannot occur on the exact location, pipe may be constructed parallel and adjacent to a road and lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment. Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2" (typically fuel gas lines) to 24" (typically transportation lines) in diameter, but 6" to 16 "is typical for a buried gas line. The diameter of liquids pipelines may vary from 2" to 12", but 6"is the typical diameter. Gas lift lines may vary from 2" to 12" diameter, but 6" diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

When installing a buried pipeline, typically topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6', but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18"-48".

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radio-graphically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, KMG will apply all applicable Army Corps mandates as

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well as the BLM's Hydraulic Considerations for pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, KMG or its successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

The Anadarko Completions Transportation System (ACTS) information:

For individual APDs, refer to Exhibit C for the proposed placement of the ACTS temporary lines.

KMG will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion pit is lined and will be used for the wells drilled on the pad or used as part of our ACTS system which is discussed in more detail below. Using the closed loop drilling system will allow KMG to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If KMG does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit may be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system. KMG will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of completion fluids by utilizing existing reserve pits, or newly constructed completion pits, as well as temporary, surface-laid aluminum liquids transfer lines between pad locations. The pit will be refurbished as follows when a traditional drill pit is used, including mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. KMG will reline the pit with a 30 mil liner and double felt padding. The refurbished or newly constructed pit will be the same size or

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smaller as specified in the originally approved ROW/APD. The pit refurbish will be done in a normal procedure and there will be no modification to the pit. All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

Any hydrocarbons collected will be treated and sold at approved sales facilities. A loading/ unloading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6 inch aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport completion fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon conclusion of the completion operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. KMG will keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other completion jobs in the area. After one year KMG will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. KMG understands that due to the temporary nature of this system, BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:
JD Field Services:

Green River: 1087’ FSL & 1020’ FEL, Sec. 15 – T2N – R22E

RN Industries:

High Pressure: 705’ FNL & 675’ FWL, Sec. 1 – T6S – R22E
1057’ FNL & 390’ FWL, Sec. 1 – T6S – R22E
1239’ FNL & 52’ FEL, Sec. 6 – T6S – R23E

White River: 501’ FNL & 1676’ FEL, Sec. 9 – T8S – R20E
471’ FNL & 1676’ FEL, Sec. 9 – T8S – R20E
900’ FNL & 550’ FEL, Sec. 35 – T9S – R22E
200’ FNL & 950’ FEL, Sec. 2 – T10S – R22E
275’ FSL & 2275’ FEL, Sec. 2 – T10S – R22E
122’ FSL & 1350’ FEL, Sec. 11 – T10S – R22E
1670’ FSL & 500’ FEL, Sec. 12 – T10S – R22E

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	959’ FNL & 705’ FEL, Sec. 13 – T10S – R22E
	600’ FSL & 900’ FEL, Sec. 13 – T10S – R22E
Water Plant:	481’ FNL & 2176’ FEL, Sec. 9 – T8S – R20E
	471’ FNL & 2176’ FEL, Sec. 9 – T8S – R20E
Frog Pond:	4820’ FNL & 1200’ FWL, Sec. 33 – T8S – R20E
	4850’ FNL & 700’ FWL, Sec. 33 – T8S – R20E
Blue Tanks:	200’ FNL & 405’ FEL, Sec. 32 – T4S – R3E

Buggsy’s Water Source:
Green River: N 2090’ & W 30’ from E1/4 corner of Sec. 33 – T8S – R20E

Underground Water Well: N 1850’ & W 425’ from E1/4 corner of Sec. 33 – T8S – R20E

Water will be hauled to location over the roads marked in the individual APD’s Maps A and B.

F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Federal lands without notifying the BLM. A proposed source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BLM.

G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. KMG maintains a Spill Control and Countermeasure Plan for each applicable location, which includes notification requirements, to the BLM and other appropriate agencies, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of Comprehensive Environmental Response, Compensation, and Liability Act, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, KMG will comply with the notification requirements of NTL-3A.

Drill cuttings and/or drilling fluids may be contained in a reserve/completion pit whether a closed loop system is or isn’t utilized and cuttings may be buried in the pit(s) upon closure. Unless specifically approved by the BLM, no oil or other oil-based drilling additives,

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chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

If utilizing a closed loop system, drill cuttings and/or drilling fluids may be stored in above ground containers while on the location. All used drilling fluids may be hauled to Anadarko Petroleum Corporation's Mud Plant where it may be recycled for use at future well locations, hauled to a permitted disposal facility, or solidified for incorporation into the pad during interim reclamation practices. Drill cuttings from a closed loop system may be either hauled to an approved Utah Department of Oil, Gas and Mining Commercial Landfarm Disposal Facility or incorporated into the pad location during interim reclamation.

Pits will be constructed to eliminate the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Netting will be placed over pits before any liquids are discharged into pit. Should hydrocarbons be released into a reserve/completion pit, they will be removed as soon as practical and before the netting is removed from the pit. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or completion pit will be lined with a synthetic material 30 mil or thicker liner. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per OSO 7. Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Revisions to the water source or method of transportation will be subject to written approval from the BLM.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and

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the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced or netted to prevent wildlife or livestock entry.

Maximum distance between fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term “hazardous materials” as used here means: (1) any substance, pollutant, or containment listed as hazardous under the CERCLA of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. KMG maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time.

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Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used. Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Any produced water separated from recoverable condensate during well operations will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following KMG active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 34 T9S R21E

H. Ancillary Facilities:

If additional ancillary facilities are planned they will be depicted on site specific APDs.

I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable.

Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits of the APDs.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/Produced Liquid tanks will be constructed,

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maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BLM.

J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils material, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation
Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, incorporation of cuttings, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BLM for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. Stockpiled drill cuttings may also be incorporated into the spoils, recontoured, and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left “rough” after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

Final Reclamation

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Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BLM will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as close as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site and prior to replacing topsoil, final grading and site preparation will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth no greater than 6 inches on 18 to 24-inch centers and the surface soil material will be uniformly pitted with longitudinal depressions perpendicular to the natural flow of water where practical. Following site preparation, topsoil will be spread on the location and prepared for seeding.

Reclamation of roads will be performed at the discretion of the BLM. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 6 to 24 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications of the BLM.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BLM.

Measures Common to Interim and Final Reclamation

Soil tillage will be conducted using a disk in areas needing additional seedbed preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur during optimal soil conditions and will typically be accomplished through the use of a no-till rangeland style seed drill with a “picker box.” Additionally an imprinter seeder may be used. An imprinter seeder creates divots to roughen the surface and collect moisture to aid in seed germination. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BLM, or a specific seed mix will be proposed by KMG to the BLM and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be

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maintained by KMG. Every effort will be made to obtain “cheat grass free seed” and noxious weed free seed.

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Bonanza Area Mix	**Pure Live Seed lbs/acre**
Crested Wheat (Hycrest)	1.5
Bottlebrush Squirreltail	1
Western Wheatgrass (Arriba)	1
Thick Spike Wheatgrass	1.5
Indian Ricegrass	1
Fourwing Saltbush	2
Shadscale	2
Forage Kochia	0.25
Rocky Mountain Bee Plant	0.5
Total	10.75

Natural Buttes Area Mix Option 1:	**Pure Live Seed lbs/acre**
Indian Ricegrass (Nezpar)	3
Thick Spike Wheatgrass	2
Sandberg bluegrass	0.5
Bottlebrush squirreltail	1
Crested wheatgrass (Hycrest)	1
Winterfat	0.25
Shadscale	1.5
Four-wing saltbush	0.75
Forage Kochia	0.25
Total	10.25

Natural Buttes Area Mix Option 2:	**Pure Live Seed lbs/acre**

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Galleta Grass	0.5
Great Basin Wildrye	0.5
Thickspike Wheatgrass	2.5
Indian Ricegrass (Nezpar)	1
Crested Wheatgrass	1
Siberian Wheatgrass	1
Bottlebrush Squirreltail	1
Munro Globemallow	0.1
Palmer Penstemon	0.1
Rocky Mtn beeplant	0.5
Western yarrow	0.1
Shadscale	0.5
Forage Kochia	0.5
Total	9.3

Natural Buttes Area Mix Option 3:	**Pure Live Seed lbs/acre**
Galleta Grass	2
Sandberg bluegrass	0.5
Shadscale	0.5
Bluebunch (secar)	2
Indian Ricegrass (Nezpar)	2
Western Wheatgrass (Arriba)	2
Palmer penstemon	0.25
Munro Globemallow	0.15
Black Sage	0.25
Winterfat	0.25
Forage Kochia	0.25
Total	10.15

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as “Sustain” (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

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Weed Control

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Proposal (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

Monitoring

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 100 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines).

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

K. Surface/Mineral Ownership:

Depicted on site specific APDs.

L. Other Information:

Cultural and Paleontological Resources

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and KMG will provide immediate notification to the BLM or appropriate SMA.

Resource Reports

RECEIVED: March 04, 2015

Appropriate archaeological and paleontological reconnaissance surveys and biological field surveys will be completed and provide to the BLM for individual APDs.

Proposed Action Annual Emissions Tables:

Appendix A through G contains the emission table per pad based on well count.

M. Lessee's or Operators' Representative & Certification:

Depicted on site specific APDs.

Appendix A:

Proposed Action Annual Emissions Tables: 4 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	1.2	5
CO	2.2	1.08	3.28
VOC	0.1	6.8	6.9
SO_2	0.005	0.01	0.02
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

RECEIVED: March 04, 2015

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	5	16,547	0.03%
VOC	6.9	127,495	0.01%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin Data

Appendix B:

Proposed Action Annual Emissions Tables: 5 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	1.5	5.3
CO	2.2	1.08	3.28
VOC	0.1	8.5	8.6
SO_2	0.005	0.01	0.02
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

RECEIVED: March 04, 2015

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	5.3	16,547	0.03%
VOC	8.6	127,495	0.01%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

Appendix C:

Proposed Action Annual Emissions Tables: 6 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	1.8	5.6
CO	2.2	1.08	3.28
VOC	0.1	10.2	10.3
SO_2	0.005	0.01	0.02
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	5.6	16,547	0.03%
VOC	10.3	127,495	0.01%

RECEIVED: March 04, 2015

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

Appendix D:

Proposed Action Annual Emissions Tables: 7 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	2.1	5.9
CO	2.2	1.08	3.28
VOC	0.1	11.9	12
SO_2	0.005	0.01	0.02
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	5.9	16,547	0.03%
VOC	12	127,495	0.01%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

Appendix E:

Proposed Action Annual Emissions Tables: 8 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

RECEIVED: March 04, 2015

Pollutant	Development	Production	Total
NOx	3.8	2.4	6.2
CO	2.2	1.08	3.28
VOC	0.1	13.6	13.7
SO_2	0.005	0.01	0.02
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	6.2	16,547	0.03%
VOC	13.7	127,495	0.01%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

Appendix F:

Proposed Action Annual Emissions Tables: 10 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	3	6.8
CO	2.2	1.08	3.28
VOC	0.1	17	17.1
SO_2	0.005	0.01	0.02

RECEIVED: March 04, 2015

PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	6.8	16,547	0.03%
VOC	17.1	127,495	0.01%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

Appendix G:

Proposed Action Annual Emissions Tables: 12 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	3.6	7.4
CO	2.2	1.08	3.28
VOC	0.1	20.4	20.5
SO_2	0.005	0.01	0.02
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45

RECEIVED: March 04, 2015

Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	7.4	16,547	0.03%
VOC	20.5	127,495	0.01%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

Appendix G:

Proposed Action Annual Emissions Tables: 15 Well Pad

Table 1: Proposed Action Annual Emissions (tons/year)[1]

Pollutant	Development	Production	Total
NOx	3.8	4.5	8.3
CO	2.2	1.08	3.28
VOC	0.1	25.5	25.6
SO_2	0.005	0.01	0.02
PM_{10}	1.7	0.11	1.81
$PM_{2.5}$	0.4	0.05	0.45
Benzene	2.20E-03	0.12	0.12
Toluene	1.60E-03	0.2	0.2
Ethylbenzene	3.40E-04	0.01	0.01
Xylene	1.10E-03	0.09	0.09
n-Hexane	1.70E-04	0.51	0.51
Formaldehyde	1.30E-02	1.30E-04	1.31E-02

RECEIVED: March 04, 2015

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

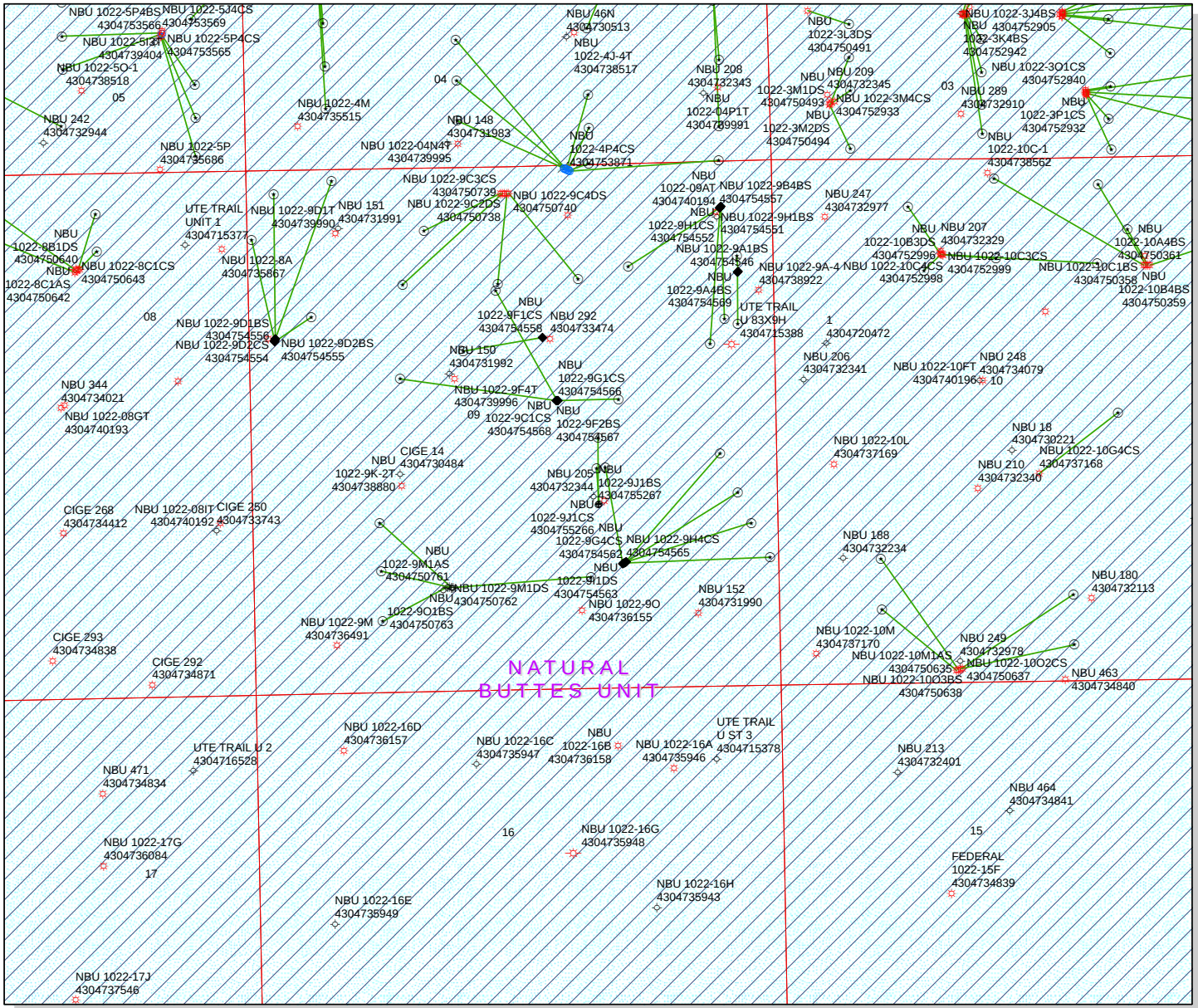
Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory[a] (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NOx	8.3	16,547	0.03%
VOC	25.6	127,495	0.01%

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

RECEIVED: March 04, 2015

API Well Number: 43047552670000



API Number: 4304755267

Well Name: NBU 1022-9J1BS

Township: T10.0S Range: R22.0E Section: 09 Meridian: S

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared: 3/5/2015
Map Produced by Diana Mason

Wells Query

Status

- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

Units

STATUS

- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS

- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED

1,250 625 0 1,250 Feet

1:12,470

RECEIVED: March 05, 2015

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
440 West 200 South, Suite 500
Salt Lake City, UT 84101

IN REPLY REFER TO:
3160
(UT-922)

March 9, 2015

Memorandum

To: Assistant Field Office Manager Minerals,
Vernal Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2015 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Mason, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2015 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION

(Proposed PZ WASATCH-MESA VERDE)

PAD NBU 1022-9J

43-047-55266 NBU 1022-9J1CS Sec 09 T10S R22E 1913 FSL 1793 FEL
BHL Sec 09 T10S R22E 2273 FSL 1814 FEL

43-047-55267 NBU 1022-9J1BS Sec 09 T10S R22E 1908 FSL 1802 FEL
BHL Sec 09 T10S R22E 2576 FSL 1794 FEL

This office has no objection to permitting the wells at this time.

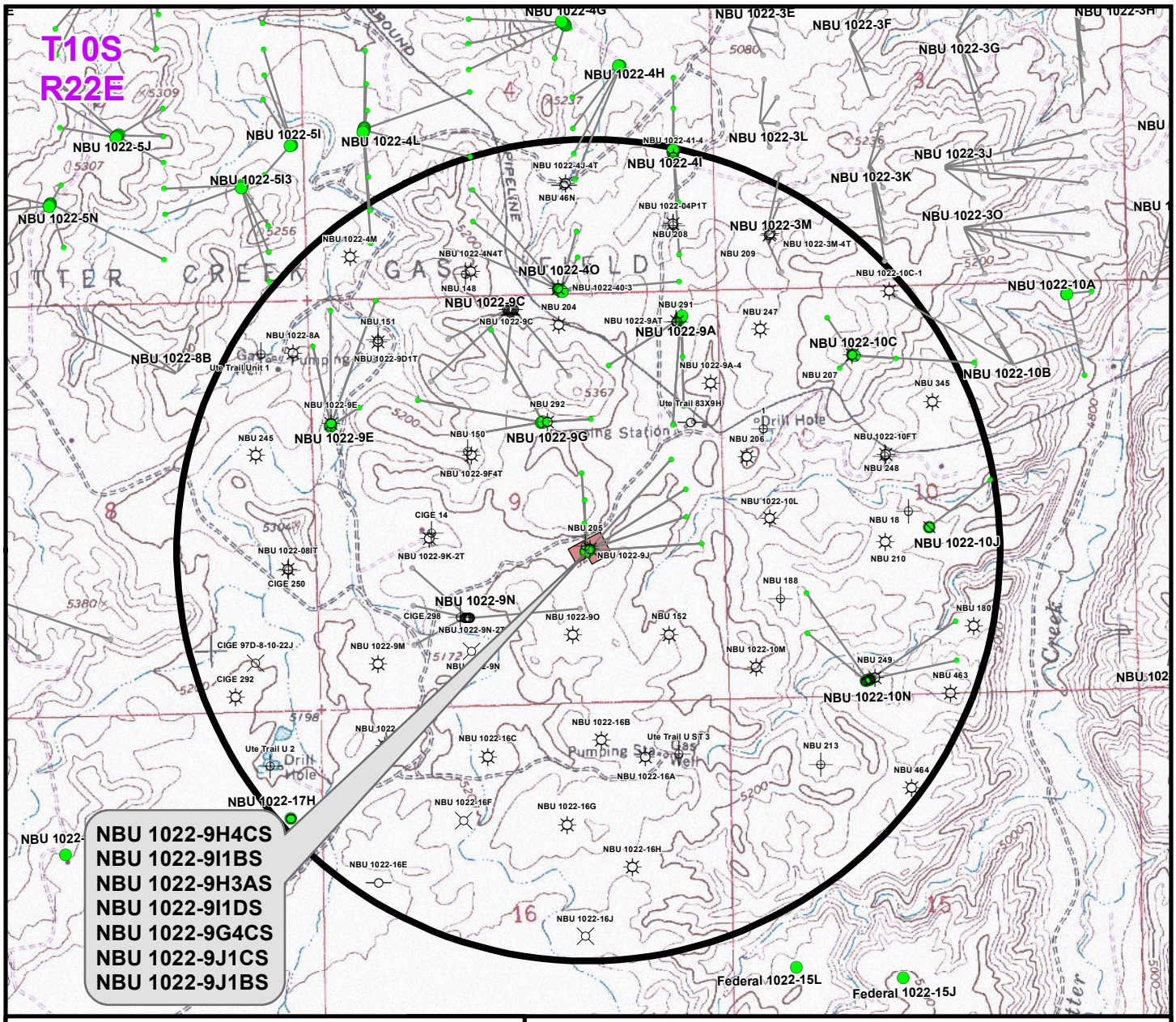
Michael Coulthard
Digitally signed by Michael Coulthard
DN: cn=Michael Coulthard, o=Bureau of Land Management, ou=Division of Minerals, email=mcoultha@blm.gov, c=US
Date: 2015.03.09 09:23:57 -06'00'

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:3-9-15

RECEIVED: March 10, 2015

API Well Number: 43047552670000



Well locations derived from Utah Division of Oil, Gas and Mining (UDOGM) (oilgas.ogm.utah.gov). The estimated distances from proposed bore locations to the nearest existing bore locations are based on UDOGM data.

Proposed Well	Nearest Well Bore	Footage
NBU 1022-9H4CS	Ute Trail 83X9H	±873ft
NBU 1022-9I1BS	NBU 1022-10L	±1,069ft
NBU 1022-9H3AS	Ute Trail 83X9H	±543ft
NBU 1022-9I1DS	NBU 1022-10L	±924ft
NBU 1022-9G4CS	NBU 292	±790ft
NBU 1022-9J1CS	NBU 292	±290ft
NBU 1022-9J1BS	NBU 292	±592ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Well - 1 Mile Radius
- Producing
- Spudded
- APD Approved
- Preliminary Location
- Deferred
- Cancelled
- Temporarily Abandoned
- Active Injector
- Location Abandoned
- Plugged & Abandoned
- Shut-In

WELL PAD - NBU 1022-9J

TOPO C
NBU 1022-9H4CS,
NBU 1022-9I1BS, NBU 1022-9H3AS,
NBU 1022-9I1DS, NBU 1022-9G4CS,
NBU 1022-9JICS & NBU 1022-9J1BS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street
Denver, Colorado 80202

609 CONSULTING, LLC
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-0609
Fax 307-674-0182

N

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: 15
DRAWN: TL	DATE: 18 Nov 2013	15 OF 19
REVISED: CPS	DATE: 27 Feb 2015	

K:\ANADARKO\2013\2013_55_NBU_1022-9_FOCUS\GIS\Maps_ABCDE\NBU 1022-9J\NBU 1022-9J_C.mxd2/27/2015 9:31:10 AM

RECEIVED: March 10, 2015

API Well Number: 43047552670000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-9J PAD
Well: NBU 1022-9J1CS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.67°

Magnetic Field
Strength: 51834.3snT
Dip Angle: 65.73°
Date: 3/2/2015
Model: BGGM2013

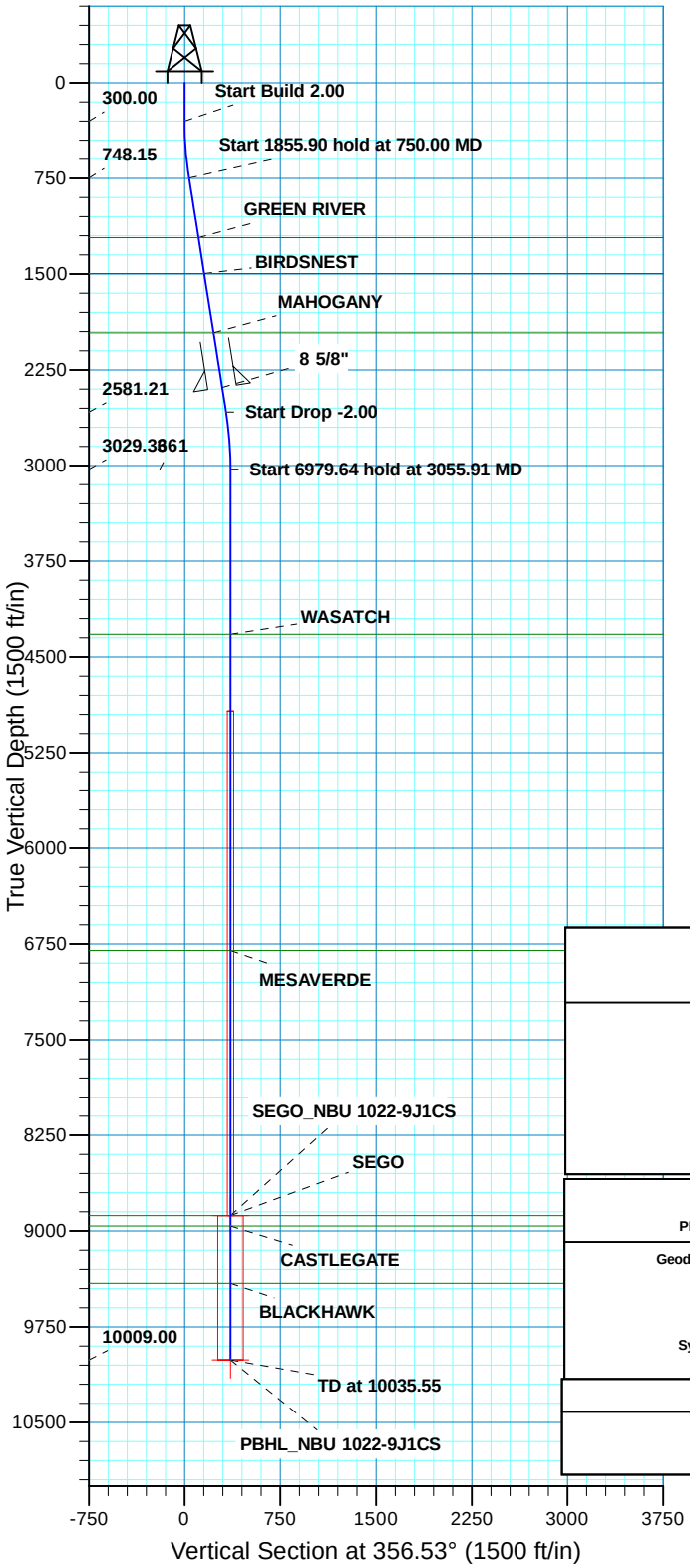
WELL DETAILS: NBU 1022-9J1CS

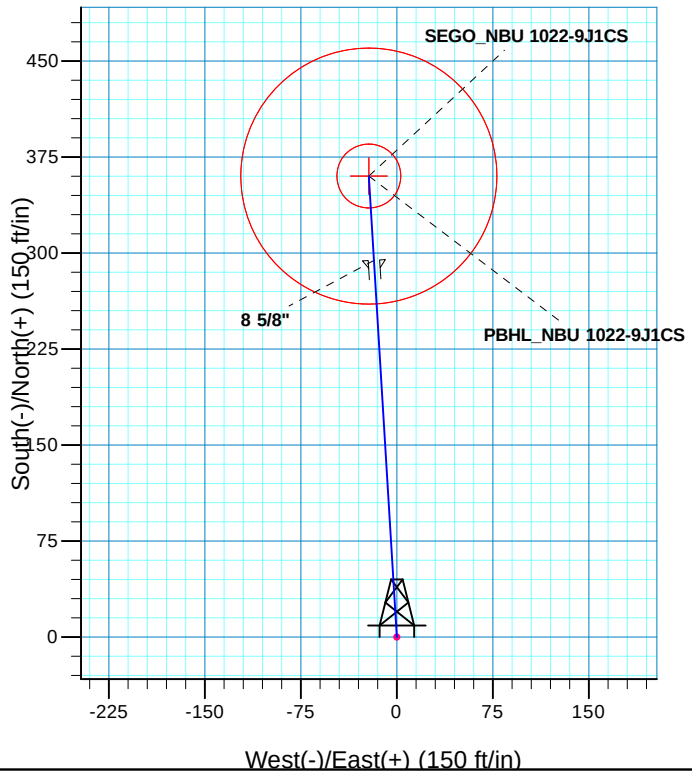
GL 5208 & KB 4 @ 5212.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14515856.62	2077262.63	39.9615380	-109.4410690

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	8880.00	360.21	-21.86	14516216.39	2077234.48	39.9625270	-109.4411470	Circle (Radius: 25.00)
	- plan hits target center							
PBHL	10009.00	360.21	-21.86	14516216.39	2077234.48	39.9625270	-109.4411470	Circle (Radius: 100.00)
	- plan hits target center							





SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
750.00	9.00	356.53	748.15	35.21	-2.14	2.00	356.53	35.27	
2605.91	9.00	356.53	2581.21	325.00	-19.72	0.00	0.00	325.60	
3055.91	0.00	0.00	3029.36	360.21	-21.86	2.00	180.00	360.87	
10035.55	0.00	0.00	10009.00	360.21	-21.86	0.00	0.00	360.87	PBHL_NBU 1022-9J1CS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 9 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1215.00	1222.67	GREEN RIVER
1496.00	1507.17	BIRDSNEST
1960.00	1976.95	MAHOGANY
4322.60	4349.15	WASATCH
6802.00	6828.55	MESAVERDE
8880.00	8906.55	SEGO
8961.00	8987.55	CASTLEGATE
9409.00	9435.55	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2387.71	2410.00	8 5/8"	8.625

RECEIVE

Plan: PLAN #1 PRELIMINARY (NBU 1022-9J1CS/OH)

Created By: RobertScott Date: 10:17, March 03 2015

API Well Number: 43047552670000

Scientific Drilling

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 1022-9J PAD
Well: NBU 1022-9J1BS
Wellbore: OH
Design: PLAN #1 PRELIMINARY

Anadarko Petroleum Corporation

T M

Azimuths to True North
Magnetic North: 10.70°

Magnetic Field
Strength: 51818.4snT
Dip Angle: 65.74°
Date: 3/2/2015
Model: BGGM2014

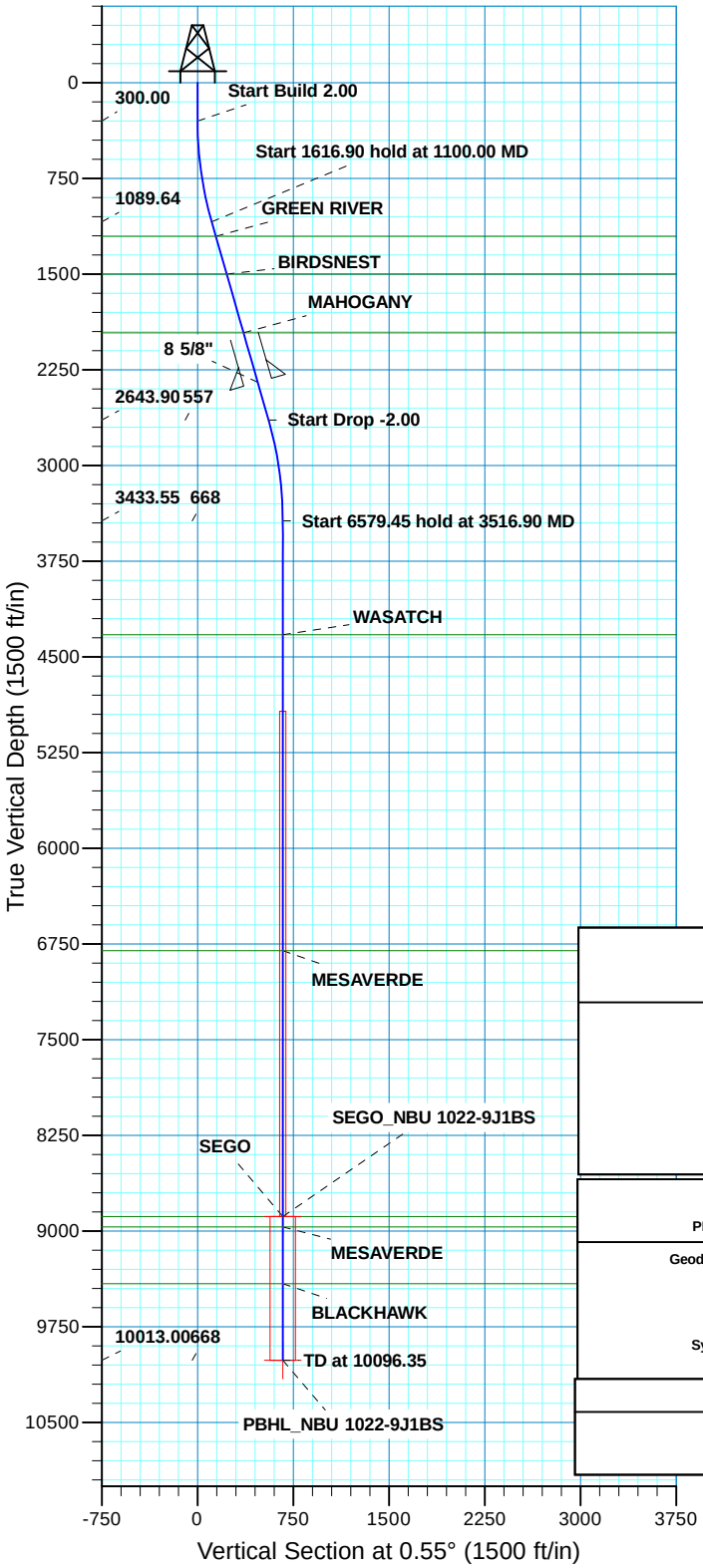
WELL DETAILS: NBU 1022-9J1BS

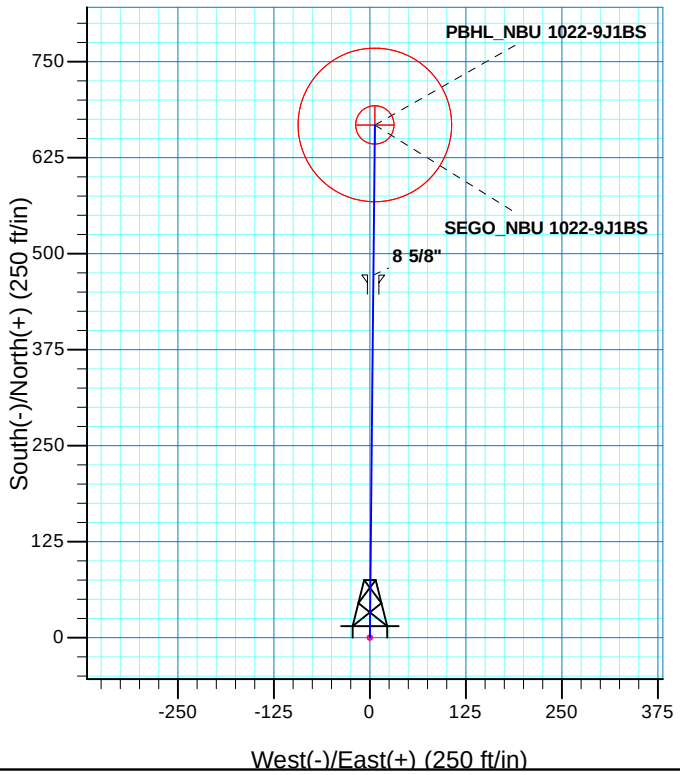
GL 5208 & KB 4 @ 5212.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14515852.09	2077253.74	39.9615260	-109.4411010

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SEGO	8886.00	667.60	6.45	14516519.70	2077248.52	39.9633590	-109.4410780	Circle (Radius: 25.00)
	- plan hits target center							
PBHL	10013.00	667.60	6.45	14516519.70	2077248.52	39.9633590	-109.4410780	Circle (Radius: 100.00)
	- plan hits target center							





SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1100.00	16.00	0.55	1089.64	110.97	1.07	2.00	0.55	110.98	
2716.90	16.00	0.55	2643.90	556.63	5.38	0.00	0.00	556.65	
3516.90	0.00	0.00	3433.55	667.60	6.45	2.00	180.00	667.63	
10096.35	0.00	0.00	10013.00	667.60	6.45	0.00	0.00	667.63	PBHL_NBU 1022-9J1BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 9 T10S R22E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1204.00	1218.97	GREEN RIVER
1500.00	1526.89	BIRDSNEST
1960.00	2005.43	MAHOGANY
4327.00	4410.35	WASATCH
6803.00	6886.35	MESAVERDE
8886.00	8969.35	SEGO
8968.00	9051.35	MESAVERDE
9413.00	9496.35	BLACKHAWK

CASING DETAILS

TVD	MD	Name	Size
2348.90	2410.00	8 5/8"	8.625

RECEIVE

Plan: PLAN #1 PRELIMINARY (NBU 1022-9J1BS/OH)

Created By: RobertScott Date: 17:23, March 03 2015

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 3/4/2015 **API NO. ASSIGNED:** 43047552670000

WELL NAME: NBU 1022-9J1BS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6828

CONTACT: Joel Malefyt

PROPOSED LOCATION: NWSE 09 100S 220E **Permit Tech Review:** ☑

SURFACE: 1908 FSL 1802 FEL **Engineering Review:** ☑

BOTTOM: 2576 FSL 1794 FEL **Geology Review:** ☑

COUNTY: UINTAH

LATITUDE: 39.96135 **LONGITUDE:** -109.44180

UTM SURF EASTINGS: 633085.00 **NORTHINGS:** 4424630.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 01196-D **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

SURFACE OWNER: 1 - Federal **COALBED METHANE:** NO

RECEIVED AND/OR REVIEWED:

- ☑ **PLAT**
- ☑ **Bond:** FEDERAL - WYB000291
- ☐ **Potash**
- ☑ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** 43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☑ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

Board Cause No: Cause 173-14

Effective Date: 12/2/1999

Siting: Suspends General Siting

- ☑ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
3 - Commingling - ddoucet
4 - Federal Approval - dmason
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason

RECEIVED: March 12, 2015

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill
****

Well Name: NBU 1022-9J1BS
API Well Number: 43047552670000
Lease Number: UTU 01196-D
Surface Owner: FEDERAL
Approval Date: 3/12/2015

Issued to:
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:
In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284
  (please leave a voicemail message if not available)
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
  at http://oilgas.ogm.utah.gov

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

Form 3160-3
(August 2007)

RECEIVED
MAR 05 2015
BLM Vernal UT

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. UTU01196D
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA Agreement, Name and No. UTU63047A
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone	8. Lease Name and Well No. NBU 1022-9J1BS
2. Name of Operator KERR-MCGEE OIL & GAS ONSHORE LP Contact: JOEL MALEFYT E-Mail: JOEL.MALEFYT@ANADARKO.COM	9. API Well No. 43047552 67
3a. Address P.O. BOX 173779 DENVER, CO 80202-3779 / 3b. Phone No. (include area code) Ph: 720-929-6828 Fx: 720-929-7828	10. Field and Pool, or Exploratory NATURAL BUTTES
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface NWSE 1908FSL 1802FWL 39.961491 N Lat, 109.441784 W Lon At proposed prod. zone NWSE 2576FSL 1794FEL 39.963324 N Lat, 109.441761 W Lon	11. Sec., T., R., M., or Blk. and Survey or Area Sec 9 T10S R22E Mer SLB
14. Distance in miles and direction from nearest town or post office* 48.7 MILES SOUTH OF VERNAL, UT	12. County or Parish UINTAH / 13. State UT
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 850 / 16. No. of Acres in Lease 320.00	17. Spacing Unit dedicated to this well
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 592 / 19. Proposed Depth 10096 MD 10013 TVD	20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc. 5208 GL / 22. Approximate date work will start 05/01/2015	23. Estimated duration 60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (Printed/Typed)	Date
(Electronic Submission)	JOEL MALEFYT Ph: 720-929-6828	03/04/2015

Title: REGULATORY ANALYST

Approved by (Signature)	Name (Printed/Typed)	Date
	Jerry Kenczka	MAY 04 2015
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #293848 verified by the BLM Well Information System
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal
Committed to AFMSS for processing by STEVE HIRSCHI on 03/05/2015 ()

RECEIVED
MAY 12 2015
DIV. OF OIL GAS & MINING

NOTICE OF APPROVAL

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4400

CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	**KERR MCGEE OIL & GAS ONSHORE**	**Location:**	**NWSE, Sec. 9, T10S, R22E**
Well No:	**NBU 1022-9J1BS**	**Lease No:**	**UTU-01196D**
API No:	**43-047-55267**	**Agreement:**	

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: blm_ut_vn_opreport@blm.gov
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour.

- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.

- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

NBU 1022-9J1BS and NBU 1022-9J1CS

• KMG will install bird exclusion netting over reserve pits containing water that are left open for more than 30 days to reduce possibility of exposure to hazardous chemicals (BLM 2012b).
• KMG will install bird-excluding devises that prevent the perching and entry of migratory birds on or into its new fired vessel exhaust stacks (BLM 2012b).
An infiltration gallery will be constructed in a U.S. Fish and Wildlife Service (USFWS)-approved location. An infiltration gallery is basically a pit or trench dug within a floodplain to a depth below the water table. Water is drawn from the pit rather than from the river directly. If this is not possible, KMG will limit pumping within the river to off-channel locations that do not connect to the river during high spring flows.
• If water cannot be drawn using the measures below, and the pump head will be located in the river channel where larval fish are known to occur, the following measures will apply (BLM 2012b):
• KMG will avoid pumping from low-flow or no-flow areas as these habitats tend to concentrate larval fishes;
• KMG will avoid pumping to the greatest extent possible, during that period of the year when larval fish may be present (approximately April 1 to August 31);
○ KMG will avoid pumping, to the greatest extent possible, during the midnight hours (10:00 pm to 2:00 am) as larval drift studies indicate that is a period of greatest daily activity. Dusk is the preferred pumping time as larval drift abundance is lowest.
○ KMG will screen all pump intakes with 3/32-inch mesh material.
• Silt fencing will be used to protect cacti that are within 300 feet and downslope or downwind of surface disturbance. Fencing is intended to prevent sedimentation or dust deposition and will be evaluated for effectiveness by a qualified botanist.
• A qualified botanist will be on site to monitor surface-disturbing activities when cacti are within 300 feet of any surface disturbance.
• Dust abatement (consisting of water only) will occur during construction where plants are closer than 300 feet from surface-disturbing activities.
• Cacti within 300 feet of proposed surface disturbance will be flagged immediately prior to surface-disturbing activities and flags will be removed

immediately after surface-disturbing activities are completed. Leaving cacti flagged for as short a time as possible will minimize drawing attention to the cacti location and reduce potential for theft.
- Pipelines will be sited to maximize distance from adjacent cacti locations.
- Project personnel associated with construction activities will be instructed to drive at a speed limit of 15 miles per hour on unpaved roads and remain in existing roadway ROWs at all times.
- For permanent surface pipelines, KMG will adhere to existing cacti survey/buffer guidelines of 300 feet, or amended guidelines if developed by the BLM and USFWS. In areas where avoidance by 300 feet is not feasible and populations or individuals of *Sclerocactus wetlandicus* are within 50 feet of proposed project components, the following actions will be taken to minimize impacts:
- Prior to construction, flag individual cactus. Once pipe installation is complete, remove the flagging.
- Prior to construction, install protective fencing around the cacti if they are down gradient of the surface pipe. Once pipe installation is complete, remove the protective fencing.
- A qualified botanist will be present during construction to monitor surface line installation.
- As per discussions and email with the BLM on October 18, 2012, KMG will contribute to the Utah *Sclerocactus* mitigation fund to further study the effects of development on *Sclerocactus wetlandicus* in the Uinta Basin and the effectiveness of current mitigation measures. This contribution will be provided over the first 5 years of project development and in lieu of the required 3–year monitoring described in the Vernal BLM RMP for cacti found within 300 feet of planned surface disturbance that cannot be rerouted. This is consistent with the intent of the RMP for the effects of development to be effectively monitored within the Project Area and to better assess conservation measures to avoid or minimize these impacts in the future.
- The following considerations are required for those wells where KMG deems completion fluid recycling is appropriate based on new well density and topography:
  - Temporary lines associated with recycling of completion water will be sited in existing ROWs. The pressure in the lines is less than 50 pounds per square inch and the lines are constructed of rigid aluminum; therefore, virtually no movement will occur during operation.
  - If surface water completion lines are placed within the footprint of a road disturbance where vegetation does not grow, *Sclerocactus wetlandicus* surveys will not be necessary.
  - A qualified botanist will survey a 50-foot-wide corridor along roads where temporary lines are planned to ensure *Sclerocactus wetlandicus* is not present.
  - If cacti are present within the 50-foot-wide survey corridor and avoidance is necessary (to ensure the line is more than 50 feet away from identified cactus), the new alignment will, if possible, be such that the cacti are topographically higher than the re-aligned line so a potential spill from the line will not impact the identified cacti.
  - If it is not possible to re-align the surface lines to avoid individuals or populations of the *Sclerocactus wetlandicus* that are within 50 feet of surface disturbance, the following actions will be taken to minimize impacts:
  - Prior to construction, KMG will flag individual cacti. Once pipe installation is complete, remove the flagging.
  - Prior to construction, KMG will install protective fencing around the cacti if they are down gradient of the surface pipe. Once pipe installation

is complete, remove the protective fencing.
○ A qualified botanist will be present during construction to monitor surface line installation.
In addition, through several discussions and meetings in December 2011 and January 2012, KMG/Anadarko committed to the following conservation measures in core conservation areas for Sclerocactus wetlandicus:
• KMG will continue to abide by mitigation measures outlined in the 2010 Programmatic Biological Opinion (BO) if any development is proposed in cactus core conservation areas.
○ Avoidance of cactus by 300 feet will take priority in the expansion of pads within the cactus core conservation areas. When the 300-foot buffer cannot be avoided in pad expansion, KMG will notify the USFWS and work with the BLM to determine pad expansion that places a priority on avoiding cactus impacts.
○ KMG will follow existing ROWs and/or roads in constructing new buried pipelines within the cactus core conservation areas. For instance, where a new buried pipeline is unable to follow an existing ROW and/or road and exceeds 600 feet in length, KMG will work with the USFWS and the BLM to determine a route that places a priority on avoiding cactus impacts.
○ KMG retains the right to perform necessary maintenance activities on all existing pipelines within the cactus core conservation areas. Maintenance activities on pipelines within cactus core conservation areas will avoid impacts to cactus, to the extent possible.
○ KMG will not create new pads in the cactus core conservation areas without formal Service consultation, with the exception of 15 quarter-quarter sections within the cactus core conservation areas where new pad construction will be allowed as a condition of this consultation, with the following conditions:
○ When topographically feasible, expansion of existing well pads will take priority in Level 1 cactus core conservation areas.
○ Where feasible, new pads will be placed on or adjacent to existing disturbance (e.g. roads) in the cactus core conservation areas.
○ Where topographically feasible, drill mats or similar devices will be used for new well pad development in the cactus core conservation areas.
○ Due to the high value of Level 1 cactus core conservation areas, KMG will notify the Service and work with the BLM (and the BIA if on tribal surface) to determine new pad placement that places a priority on avoiding cactus impacts when in these areas.
○ If feasible, new well pad development will not occur in cactus core conservation areas located in the northeast corner of the Project Area (e.g. the population located in T8S R23E and the northern portion of T9S R23E)
• KMG will fund a study in the amount of $100,000 in addition to typical expenditures for pad reclamation, to evaluate the technical feasibility of re-planting the Uinta Basin hookless cactus during pad reclamation activities. KMG will be allowed to review and provide input to the study work plan prior to study implementation and will be given an opportunity to review study results prior to submittal of results for publication. KMG will exercise no control over final study design or study results submitted for publication.

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

NBU 1022-9J1BS
NBU 1022-9J1CS

Well specific down-hole COA's:

- Cement for the 4.5 inch casing shall be brought up to a minimum of 200 feet above the surface casing shoe.
- A CBL shall be run from TD to TOC in the Production Casing.
- Variances shall be granted as requested in Section 9 of the Drilling Program of the SOP.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**

- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.

- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

- **Please submit an electronic copy of all other logs run on this well by CD (compact disc). This submission will supersede the requirement for submittal of paper logs to the BLM.**

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.

- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:

    - Operator name, address, and telephone number.

    - Well name and number.

    - Well location (¼¼, Sec., Twn, Rng, and P.M.).

    - Date well was placed in a producing status (date of first production for which royalty will be paid).

    - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).

    - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.

    - Unit agreement and/or participating area name and number, if applicable.

    - Communitization agreement number, if applicable.

- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.

- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid,

and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.

- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.

- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.

- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 01196-D

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-9J1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047552670000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6100

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1908 FSL 1802 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 09 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
✓ SPUD REPORT Date of Spud: 6/10/2015	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Spud well 06/10/2015 @ 16:00. Drill 24" conductor hole to 40', run 14" X .250 wall conductor pipe, cement with 90 sacks ready mix.
Anticipated surface spud date and surface casing cement 07/03/2015.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 15, 2015

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Doreen Green	435 781-9758	Regulatory Analyst II
SIGNATURE		**DATE**
N/A		6/15/2015

RECEIVED: Jun. 15, 2015

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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8. WELL NAME and NUMBER: NBU 1022-9J1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047552670000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6100

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1908 FSL 1802 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 09 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 9/30/2015	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Drilled production to 8,621 ft in Quarter 3 of 2015. Waiting on completion. Thank you.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
October 02, 2015

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jennifer Thomas	720 929-6808	Regulatory Specialist
SIGNATURE N/A		**DATE** 9/30/2015

RECEIVED: Sep. 30, 2015

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 01196-D

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1022-9J1BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047552670000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6526

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1908 FSL 1802 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 09 Township: 10.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☑ SUBSEQUENT REPORT Date of Work Completion: 12/14/2015	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☑ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The NBU 1022-9J1BS well was placed on production on 12/14/2015 after a new well completion. Prouducing from the Mesaverde. Thank you.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
December 17, 2015

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jennifer Thomas	720 929-6808	Regulatory Specialist
SIGNATURE N/A		**DATE** 12/16/2015

RECEIVED: Dec. 16, 2015

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
UTU01196D

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.
UTU63047A

2. Name of Operator
KERR-MCGEE OIL AND GAS ONSHORE LP
Contact: JENNIFER THOMAS
E-Mail: Jennifer.Thomas@anadarko.com

8. Lease Name and Well No.
NBU 1022-9J1BS

3. Address P.O. BOX 173779
DENVER, CO 80217

3a. Phone No. (include area code)
Ph: 720-929-6808

9. API Well No.
43-047-55267

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface NWSE 1908FSL 1802FEL 39.961491 N Lat, 109.441784 W Lon

At top prod interval reported below NWSE 2593FSL 1812FEL

At total depth NWSE 2573FSL 1781FEL 39.963324 N Lat, 109.441761 W Lon

10. Field and Pool, or Exploratory
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area Sec 9 T10S R22E Mer SLB

12. County or Parish
UINTAH

13. State
UT

14. Date Spudded
06/10/2015

15. Date T.D. Reached
09/30/2015

16. Date Completed
☐ D & A ☒ Ready to Prod.
12/14/2015

17. Elevations (DF, KB, RT, GL)*
5221 KB

18. Total Depth: MD 8969 TVD 8888

19. Plug Back T.D.: MD 8900 TVD 8819

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
RADIAL CEMENT GAMMA RAY CCL

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
24.000	14.000 STL	36.7	0	40		90			
11.000	8.625 J-55	28.0	13	2512		1000		0	
7.875	4.500 I-80	11.6	13	8948		1819		1840	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	6814							

25. Producing Intervals / 26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	6871	8969	6934 TO 8768	0.410	168	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
6934 TO 8768	PUMP 73208 BBLS SLICKWATER, 42 BBLS 15% HCL ACID, 301056 LBS 30/50 MESH SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
12/14/2015	12/31/2015	24	→	0.0	1371.0	2056.0			FLOWS FROM WELL

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
20/64	1474	1739.0	→	0	1371	2056		PGW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #328187 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
CAPTURED

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				GREEN RIVER	1143
				BIRDS NEST	1476
				MAHOGANY MARKER	1972
				WASATCH	4384
				MESAVERDE	6871

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #328187 Verified by the BLM Well Information System.
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal

Name *(please print)* JENNIFER THOMAS Title REGULATORY SPECIALIST III

Signature (Electronic Submission) Date 01/11/2016

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

RECEIVED: Jan. 11, 2016

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
6/10/2015	-		DCSGCON	12	E	P		SET 14" CONDUCTOR CASING AND CEMENT WITH 90 SX CEMENT
	0:00 -		DRLCON	2	A	P	49	DRILL 24" CONDUCTOR HOLE TO 40'
7/2/2015	1:30 - 7:30	6.00	MIRU	01	C	P	49	RIG DOWN, SKID RIG 20 FT AND RIG UP, SET MATTING BOARD, SET RIG IN PLACE ON NBU 1022-9JIBS WELL 4 OF 7, JSA , RIG UP FLOW AND MUD LINES, REVIEW DIRECTIONAL PLANS AND PLATS AND VERIFY LAT/LONGS, VERIFY DIRECTIONAL DRILLERS PLAN IS THE MOST RECENT AND APPROVED VERSION REFERENCE WELLBORE DIAGRAMS FOR EXACT CASING DESIGN AND GENERAL OVERVIEW OF WELLBORE PRIOR TO SPUD.
	7:30 - 8:30	1.00	MIRU	06	A	P	49	PICK UP NOV 1.83 DEGREE BENT MOTOR (RUN # 2) .17 REV/GAL PICK UP 12.25" DRILL BIT. PICK UP ROTATING HEAD
	8:30 - 10:30	2.00	DRLSUR	02	D	P	49	DRILL 12.25" HOLE F/ 44' T/ 210@83'PH) WEIGHT ON BIT 25 K STROKES PER MINUTE = 120 GALLONS PER MINUTE = 491 PRESSURE ON/OFF (BOTTOM) 560/460 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROTATE 25/25/25 K. DRAG 0 K. CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS NO HOLE ISSUES
	10:30 - 13:00	2.50	DRLSUR	06	A	P	219	PRE JOB SAFETY MEETING, CIRC 15 MINUTES TRIP OUT OF HOLE LAY DOWN BHA # (12 1/4" BIT) P/U BHA #2 TRIP IN HOLE, MAKE UP REED-NOV 11", 8" DIRECTIONAL ASSEMBLY, SCIBE MOTOR, INSTALL EM TOOL AND TRIP IN HOLE.
	13:00 - 13:30	0.50	DRLSUR	07	A	P	219	RIG SERVICE

RECEIVED: Jan. 11, 2016

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	13:30 - 17:30	4.00	DRLSUR	02	D	P	219	DRILL 11" SURFACE HOLE F/210' T/ 620' (410'@ 102'PH) WEIGHT ON BIT 15-20 K STROKES PER MINUTE=120 GALLONS PER MINUTE=491 PRESSURE ON/OFF(BOTTOM) 670 / 490 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROT 46/41/44 K. DRAG 2K DIRECTIONAL PLAN CURRENTLY 2.0' ft HIGH, 0.48' ft LEFT SLIDE 85 ft @ 1.00Hrs CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS NO HOLE ISSUES
	17:30 - 0:00	6.50	DRLSUR	02	D	P	629	DRILL 11" SURFACE HOLE F/620' T/1,060' (440'@ 67.7'PH) WEIGHT ON BIT 18-25 K STROKES PER MINUTE=120 GALLONS PER MINUTE=491 PRESSURE ON/OFF(BOTTOM) 1,000 / 750 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROT 60/52/55 K. DRAG 5K DIRECTIONAL PLAN CURRENTLY 9.62' ft HIGH, 2.22' ft LEFT SLIDE 132 ft @ 1.58Hrs CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS NO HOLE ISSUES
7/3/2015	0:00 - 5:30	5.50	DRLSUR	02	D	P	1069	DRILL 11" SURFACE HOLE F/ 1'060' T/ 1,450' (390'@ 71'PH) WEIGHT ON BIT 18-25 K STROKES PER MINUTE=120 GALLONS PER MINUTE=491 PRESSURE ON/OFF(BOTTOM) 1,020 / 830 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROT 69/50/59 K. DRAG 10K DIRECTIONAL PLAN CURRENTLY 9.62' ft HIGH, 2.22' ft LEFT SLIDE 132 ft @ 1.58Hrs CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS NO HOLE ISSUES

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	5:30 - 12:00	6.50	DRLSUR	02	D	P	1459	DRILL 11" SURFACE HOLE F/ 1,450' TO 1,840' (390'@ 60'PH) WEIGHT ON BIT 18-25 K STROKES PER MINUTE=120 GALLONS PER MINUTE=491 PRESSURE ON/OFF(BOTTOM) 1,500 / 1,300 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROT 82/55/67 K. DRAG 15K DIRECTIONAL PLAN CURRENTLY 10.7 ft. HIGH & 2.7 ft Left SLIDE 1.83 Hrs / 78 ft CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS HOLE ISSUES - LOSING RETURNS AIR ON HOLE @ 1,580' @ 1770 CFM
	12:00 - 17:00	5.00	DRLSUR	02	D	P	1849	DRILL 11" SURFACE HOLE F/ 1,840' TO 2,080' (240'@ 48'PH) WEIGHT ON BIT 18-25 K STROKES PER MINUTE=120 GALLONS PER MINUTE=491 PRESSURE ON/OFF(BOTTOM) 1,650 / 1,400 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROT 86/57/71 K. DRAG 15K DIRECTIONAL PLAN CURRENTLY 10.0 ft. HIGH & 4.7 ft Left SLIDE 1.5 Hrs / 40 ft CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS HOLE ISSUES - LOSING RETURNS AIR ON HOLE @ 1,580' @ 1770 CFM
	17:00 - 17:30	0.50	DRLSUR	07	A	P	2089	RIG SERVICE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	17:30 - 22:30	5.00	DRLSUR	02	D	P	2089	DRILL 11" SURFACE HOLE F/ 2,080' TO 2,380' (300'@ 60'PH) WEIGHT ON BIT 18-25 K STROKES PER MINUTE=120 GALLONS PER MINUTE=491 PRESSURE ON/OFF(BOTTOM) 1,670 / 1,500 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROT 82/63/75 K. DRAG 7K DIRECTIONAL PLAN CURRENTLY 9.64 ft. HIGH & 5.26 ft Left SLIDE .92 Hrs / 62 ft CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS HOLE ISSUES - LOSING RETURNS AIR ON HOLE @ 1,580' @ 1770 CFM
	22:30 - 0:00	1.50	DRLSUR	08	A	Z	2389	KELLY HOSE FAILURE
7/4/2015	0:00 - 2:30	2.50	DRLSUR	21	D	Z	2389	WAITING ON NEW KELLY HOSE
	2:30 - 3:30	1.00	DRLSUR	08	B	Z	2389	INSTALL NEW KELLY HOSE
	3:30 - 4:00	0.50	DRLSUR	06	A	Z	2389	TRIP IN HOLE WITH 8 JOINTS
	4:00 - 8:00	4.00	DRLSUR			P	2389	DRILL 11" SURFACE HOLE F/ 2,380' T/ 2,538' (158'@ 39.5'PH) WEIGHT ON BIT 18-25 K STROKES PER MINUTE=120 GALLONS PER MINUTE=491 PRESSURE ON/OFF(BOTTOM) 1,480 / 1,280 ROTARY RPM 55 MOTOR RPM 83 TOTAL RPM 138 UP/DOWN/ ROT 100/60/70 K. DRAG 30K DIRECTIONAL PLAN CURRENTLY 9.64 ft. HIGH & 5.26 ft Left SLIDE .92 Hrs / 62 ft CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER RUNNING VOLUME THROUGH 2 CENTRIFUGES DEWATERING. RUNNING VOLUME OVER BOTH SHAKERS HOLE ISSUES - LOSING RETURNS AIR ON HOLE @ 1,580' @ 1770 CFM
	8:00 - 10:00	2.00	CSGSUR	05	C	P	2547	CIRCULATE AND CONDITION HOLE , VOLUME IS CLEAN COMING OVER SHAKERS, 700 BBLS H20 ON LOCATION FOR DRILLING 800 BBLS H20 ON LOCATION FOR CEMENT
	10:00 - 14:30	4.50	CSGSUR	06	A	P	2547	TRIP OUT OF HOLE, LAY DOWN DRILL STRING, BHA, LAY DOWN DIRECTIONAL TOOLS, MOTOR, AND, BIT.
	14:30 - 15:30	1.00	CSGSUR	12	A	P	2547	MOVE CAT WALK & PIPE RACKS, PJSM , R/U TO RUN 8 5/8" CSG

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	15:30 - 17:30	2.00	CSGSUR	12	C	P	2547	RUN 57 JOINTS OF 8-5/8" 28# J-55 LT&C CASING. RAN 1 CENTRALIZER ON FIRST THREE JOINTS, AND EVERY TWO JOINT FOR 2 JOINTS FOR A TOTAL OF 5 CENTRALIZERS. RUN CASING TO BOTTOM WITH NO PROBLEMS. LANDED FLOAT SHOE @ 2,503.16' SET TOP OF BAFFLE PLATE @ 2,457.21'
	17:30 - 21:00	3.50	CSGSUR	12	E	P	2547	PRE JOB SAFETY MEETING WITH PRO PETRO CEMENTERS. RIG UP AND INSTALL CEMENT HEAD, START CEMENT OPERATIONS. PRESSURE TEST LINES TO 2500 PSI. PUMP 156 BBLS H2O AND PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. MIX AND PUMP (300 SX) 61.4 BBLS OF 15.8# 1.15 YP, 5 GAL/SK PREMIUM CEMENT W/ 2% CALC. DROP PLUG ON FLY. DISPLACE W/ 153 BBLS OF H20. NO CIRC THROUGH OUT. FINAL LIFT OF 250 PSI AT 4 BBL/MIN. BUMP PLUG WITH 500 PSI FOR 5 MIN. FLOAT HELD. RIGGED DOWN CEMENT HEAD, PICKED UP RUNNING TOOL, PULLED BUSHINGS, PULLED DIVERTER RUBBER , SET ELEVATORS, CASING LANDED ON CONDUCTOR, RUN 200' OF 1" PIPE DOWN BACK SIDE OF 8.5/8" CASING ANNULUS, R/D PROPETRO RIG. RELEASED RIG @ 21:00 TOP JOB # 1: PUMP CEMENT DOWN ONE INCH PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 20.4 BBLS OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT TO SURFACE. TOP JOB # 2: PUMP CEMENT DOWN ONE INCH PIPE WITH 200 SX PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 20.4 BBLS OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT TO SURFACE. TOP JOB # 3: PUMP CEMENT DOWN ONE INCH PIPE WITH 150 SX PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 40.9 BBLS OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. NO CEMENT TO SURFACE. TOP JOB # 4: PUMP CEMENT DOWN ONE INCH PIPE WITH 200 SX PREMIUM CEMENT WITH 4% CACL2 & .25 LB/SX FLOCELE. 100# GR-3, 40.9 BBLS OF SLURRY MIXED AT 15.8 PPG WITH YIELD OF 1.15 CF/SX. CEMENT TO SURFACE RELEASE CEMENTERS @ 7/05/15 04:00.
9/26/2015	20:00 - 20:30	0.50	MIRU3	01	E	P	2547	PREP TO SKID THE RIG
	20:30 - 21:30	1.00	MIRU3	01	C	P	2547	WALK THE RIG OVER THE NBU 1022-9J1BS AND CENTER IT OVER THE HOLE
	21:30 - 22:30	1.00	PRPSPD	01	B	P	2547	RIG UP THE CATWALK, FLOWLINE AND FLARE LINE CHANGE SAVER SUB
	22:30 - 23:30	1.00	PRPSPD	14	A	P	2547	NIPPLE UP THE BOP

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	23:30 - 0:00	0.50	CSGSUR	15	A	P	2547	SAFETY MEETING WITH A-1 TESTERS RIG UP THE TESTER AND TEST THE SURFACE CASING TO 1500 PSI FOR 30 MINUTES
9/27/2015	0:00 - 3:30	3.50	CSGSUR	15	A	P	2547	TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN, PIPE & BLIND RAMS, FLOOR VALVES, IBOP, HCR VALVE, KILL LINE VALVES, TEST BOPS,STANPIPE, KELLY HOSE CHOKE MANIFOLD TO 250 PSI LOW / 5 MIN - 5000 PSI HIGH / 10 MIN, HOLD ACCUMULATOR FUNCTION TEST
	3:30 - 4:00	0.50	CSGSUR	14	B	P	2547	INSTALL WEAR BUSHING
	4:00 - 5:30	1.50	CSGSUR	06	A	P	2547	PJSM WITH RIG CREW AND TOTAL,PICKED UP THE MM55M BIT, HUNTING MUD MOTOR AND DIRECTIONAL BHA SCRIBED THE ASSEMBLY, (SURFACE TEST MUD MOTOR GOOD)
	5:30 - 7:30	2.00	CSGSUR	06	A	P	2547	TRIP IN THE HOLE FROM 101' TO 2,240'
	7:30 - 8:00	0.50	CSGSUR	07	A	P	2547	RIG SERVICE, LUBRICATE RIG AND TOP DRIVE, SWIVEL PACKING
	8:00 - 9:30	1.50	DRLPRC	02	F	P	2547	DRILL CEMENT AND SHOE TRACK, (FLOAT @ 2466' SHOE@ 2512')
	9:30 - 17:30	8.00	DRLPRC	02	D	P	2547	DIRECTIONAL DRILL F/ 2,486' - 4041' (1555' / 6 HRS @ 259.1'/FPH) TOTAL BIT HRS. 6.0 WEIGHT ON BIT = 19/22 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 600 MUD MOTOR RPM =96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 8.5 - 10.1K STPP = 2250 OFF BOTTOM = 2010 STRING WEIGHT UP/DOWN/ROTATING = 146 / 103 / 121 BIT POSISTION: 11.15' North / 2.99' West Slide 111' @ 7.33% Depth/11.06% Time = 43.8 min – Rot 1404 ' @ 92.73% Depth/ 88.94% Time = 5.87 Hrs MUD WEIGHT = 8.5 PPG VISCOSITY = 27 SECONDS HOLE IN GOOD CONDITION ZECO - DEWATERING CENTRIFUGE - RUNNING DE-SANDER - RUNNING DRILLING WITH GYPSUM SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	17:30 - 0:00	6.50	DRLPRO	02	B	P	4041	VERTICAL DRILL F/ 4041' - 5105' (1064' / 4.8 HRS @ 221.7'/FPH) TOTAL BIT HRS. 10.8 WEIGHT ON BIT = 19/22 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 600 MUD MOTOR RPM =96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 9.5 - 11.9K STPP = 2380 OFF BOTTOM = 2010 STRING WEIGHT UP/DOWN/ROTATING = 161 / 112 / 131 BIT POSISTION: 13.59' North / 11.91' West Slide 57' @ 5.37% Depth/ .13% Time = 48 min – Rot 1004 ' @ 94.63% Depth/ 99.87% Time = 6.01 Hrs MUD WEIGHT = 8.6 PPG VISCOSITY = 27 SECONDS HOLE IN GOOD CONDITION ZECO - DEWATERING CENTRIFUGE - RUNNING DE-SANDER - RUNNING DRILLING WITH GYPSUM SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
9/28/2015	0:00 - 11:30	11.50	DRLPRO	02	B	P	5105	VERTICAL DRILL F/ 5105' - 6689'(1584' / 9.3 HRS @ 170.3'/FPH) TOTAL BIT HRS. 20.1 WEIGHT ON BIT = 19/22 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 600 MUD MOTOR RPM =96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 12.1 - 15.5K STPP = 2540 OFF BOTTOM = 2230 STRING WEIGHT UP/DOWN/ROTATING = 232 / 130 / 152 BIT POSISTION: 21.10' North / 16.07' West Slide 84' @ 5.8% Depth/ 15.64% Time = 1.4 hrs– Rot 1495 ' @ 94.2% Depth/ 84.36% Time = 7.55 Hrs MUD WEIGHT = 8.7 PPG VISCOSITY = 27 SECONDS HOLE IN GOOD CONDITION ZECO - DEWATERING CENTRIFUGE - RUNNING DE-SANDER - RUNNING DRILLING WITH GYPSUM SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	11:30 - 12:00	0.50	DRLPRO	07	A	P	6689	RIG SERVICE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	12:00 - 23:30	11.50	DRLPRO	02	B	P	6689	VERTICAL DRILL F/ 6689' - 8110' (1421' / 9.4 HRS @ 151.2'/FPH) TOTAL BIT HRS. 29.5 WEIGHT ON BIT = 19/22 K STROKES PER MINUTE - 158 GALLONS PER MINUTE = 600 MUD MOTOR RPM =96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 14.0 - 17.7K STPP = 2830 OFF BOTTOM = 2430 STRING WEIGHT UP/DOWN/ROTATING = 235 / 136 / 172 BIT POSISTION: 9.98' North / 8.54' West Slide 65' @ 4.58% Depth/ 14.65% Time = 1.5 hrs– Rot 1353 ' @ 95.42% Depth/ 85.35% Time = 8.9 Hrs MUD WEIGHT = 8.9 PPG VISCOSITY = 28 SECONDS / .2 GAS CUT RETURNS @ 8110' HOLE IN GOOD CONDITION ZECO - RUNNING CENTRIFUGE - RUNNING DE-SANDER - RUNNING DRILLING WITH GYPSUM SYSTEM MIXING HIGH VISCOSITY SWEEPS WITH CALCARB
	23:30 - 0:00	0.50	DRLPRO	05	B	P	8110	WE DISPLACED THE HOLE W/ 11.5 MUD, 39 VIS, 5% LCM
9/29/2015	0:00 - 1:00	1.00	DRLPRO	05	B	P	8110	FINISHED DISPLACING THE MUD SYSTEM WITH 11.5# MUD
	1:00 - 7:30	6.50	DRLPRO	02	B	P	8110	VERTICAL DRILL F/ 8110' - 8,513' (403' / 5.1 HRS @ 79.01'/FPH) TOTAL BIT HRS. 34.7 WEIGHT ON BIT = 19/24 K STROKES PER MINUTE - 140 GALLONS PER MINUTE = 540 MUD MOTOR RPM =86 TOP DRIVE RPM = 50 TOTAL RPM = 136 FT/LBS TORQUE = 14.0 - 17.7K STPP = 3530 OFF BOTTOM =3240 STRING WEIGHT UP/DOWN/ROTATING = 235 / 136 / 172 BIT POSISTION: 3.71' North / .75' West Slide 0.0' @ 0.0% Depth/ 0.0% Time = 0.0 hrs– Rot 403' @ 100% Depth/ 100% Time = 5.48 Hrs/ Bit Hrs =34.7 / D&C Hrs = 7.01 MUD WEIGHT = 11.8 PPG VISCOSITY = 38 HOLE IN GOOD CONDITION ZECO - RUNNING DE-SANDER -
	7:30 - 8:00	0.50	DRLPRO	22	L	Z	8513	TROUBLE SHOOT HUNTING DIRECTIONAL MOTOR, PICKED UP AND TRIED RE-STARTING SEVERAL TIME. TRIED TO SLIDE MOTOR NO SIGNS OF REACTIVE TORQUE OR DRILLING OFF. THERE WAS NO PRESSURE SPIKES OR ANY SIGNS TO VERIFY WHAT HAPPENED TO THE MOTOR

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	8:00 - 9:00	1.00	DRLPRO	05	C	Z	8513	CIRCULATE BOTTOMS UP. VERIFY SHAKERS WHERE CLEAN.
	9:00 - 9:30	0.50	DRLPRO	05	J	Z	8513	FLOW CHECK, WELL STATIC
	9:30 - 15:30	6.00	DRLPRO	06	H	Z	8513	TRIP OUT OF THE HOLE FROM 8513' TO 101' TIGHT COMING OFF BOTTOM, TIGHT AT 4,307'
	15:30 - 16:30	1.00	DRLPRO	06	A	Z	8513	RACK BACK BHA ASSEMBLY, BREAK BIT AND LAY DOWN MUD MOTOR, MUD MOTOR LOCKED UP, PICK UP NEW MOTOR AND BIT. SCRIBE TOOLS
	16:30 - 18:00	1.50	DRLPRO	06	H	Z	8513	TRIP IN THE HOLE FROM 101' TO 2133'
	18:00 - 18:30	0.50	DRLPRO	07	A	P	8513	RIG SERVICE
	18:30 - 23:00	4.50	DRLPRO	06	A	Z	8513	FINISHED TRIPPING IN THE HOLE TO BOTTOM WASHED THROUGH 2 SPOTS @ 3855' AND 6850' WASHED LAST STAND TO BOTTOM
	23:00 - 0:00	1.00	DRLPRO	02	B	P	8513	VERTICAL DRILL F/ 8,513' - 8621' (108' / 1.0 HRS @ 108'/FPH) TOTAL BIT HRS. 1.0 WEIGHT ON BIT = 19/24 K STROKES PER MINUTE - 140 GALLONS PER MINUTE = 520 MUD MOTOR RPM =83 TOP DRIVE RPM = 50 TOTAL RPM = 133 FT/LBS TORQUE = 14.0 - 17.7K STPP = 3450 OFF BOTTOM =3050 STRING WEIGHT UP/DOWN/ROTATING = 235 / 136 / 172 BIT POSISTION: 1.62’ North / 4.04' East Slide 0.0’ @ 0.0% Depth/ 0.0% Time = 0.0 hrs– Rot 108’ @ 100% Depth/ 100% Time = 55 min/ Bit Hrs =1.0 MUD WEIGHT = 11.8 PPG VISCOSITY = 38 HOLE IN GOOD CONDITION ZECO - RUNNING DE-SANDER -

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
9/30/2015	0:00 - 3:30	3.50	DRLPRO	02	B	P	8621	VERTICAL DRILL F/ 8621' - 8969' (348' / 2.7 HRS @ 128.8'/FPH) TOTAL BIT HRS. 3.7 WEIGHT ON BIT = 19/24 K STROKES PER MINUTE - 140 GALLONS PER MINUTE = 520 MUD MOTOR RPM =83 TOP DRIVE RPM = 50 TOTAL RPM = 133 FT/LBS TORQUE = 14.0 - 17.7K STPP = 3450 OFF BOTTOM =3050 STRING WEIGHT UP/DOWN/ROTATING = 235 / 136 / 172 BIT POSISTION: 13.07' South / 15.66' East Slide 0.0' @ 0.0% Depth/ 0.0% Time = 0.0 hrs– Rot 348' @ 100% Depth/ 100% Time = 2.7 Hrs/ Bit Hrs =3.7 MUD WEIGHT = 11.9 PPG VISCOSITY = 39 HOLE IN GOOD CONDITION ZECO - RUNNING DE-SANDER -
	3:30 - 5:00	1.50	CSGPRO	05	F	P	8969	WE PUMPED 2 SWEEPS AND CIRCULATED 2 BOTTOMS UP
	5:00 - 5:30	0.50	CSGPRO	05	J	P	8969	FLOW CHECK / NO FLOW WE TOOK THE LAST SURVEY AND SHUT DOWN THE EM TOOL
	5:30 - 6:30	1.00	CSGPRO	05	C	P	8969	CIRCULATED BOTTOMS UP TO CHECK
	6:30 - 15:00	8.50	CSGPRO	06	A	P	8969	TRIPPED OUT OF THE HOLE LAYING DOWN DRILL PIPE NO TIGHT SPOTS OR ISSUES
	15:00 - 16:00	1.00	CSGPRO	06	A	P	8969	LAY DOWN THE DIRECTIONAL ASSEMBLY
	16:00 - 16:30	0.50	CSGPRO	14	B	P	8969	PULL THE WEAR BUSHING
	16:30 - 17:30	1.00	CSGPRO	12	A	P	8969	WE HELD A SAFETY MEETING AND RIGGED UP FRANKS TO RUN CASING
	17:30 - 0:00	6.50	CSGPRO	12	C	P	8969	RAN CASING TO A DEPTH OF 6310' RAN A TOTAL OF 206 JTS= (89- 4.5" / 11.6# / I-80 / LTC + 1-MARKER JT) + (115- 4.5" / 11.6# / I-80 / DQX + 1- CROSS OVER). LANDED @ 8947.63', SHOE @ 8945.98', FLOAT COLLAR @ 8900.21', MESA VERDE MARKER @ 6847.36', CROSS OVER @ 4971.31' LEFT OUT: 5-LTC 4-DQX 1-XO 1-MJ

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/1/2015	0:00 - 2:30	2.50	CSGPRO	12	C	P	8969	FINISHED RUNNING CASING TO A DEPTH OF 8947' RAN A TOTAL OF 206 JTS= (89- 4.5" / 11.6# / I-80 / LTC + 1-MARKER JT) + (115- 4.5" / 11.6# / I-80 / DQX + 1- CROSS OVER). LANDED @ 8947.63', SHOE @ 8945.98', FLOAT COLLAR @ 8900.21', MESA VERDE MARKER @ 6847.36', CROSS OVER @ 4971.31' LEFT OUT: 5-LTC 4-DQX 1-XO 1-MJ
	2:30 - 3:30	1.00	CSGPRO	05	D	P	8969	CIRCULATED THE CASING ON BOTTOM SPM - 61 GPM - 235 SPP - 400
	3:30 - 4:00	0.50	CSGPRO	12	B	P	8969	WE HELD A SAFETY MEETING WITH SCHLUMBERGER AND THEN RIGGED UP THE CEMENT HEAD
	4:00 - 7:00	3.00	CSGPRO	12	E	P	8969	PRESSURE TEST TO 5000 PSI. PUMP 30 BBL. CHEMICAL WASH, . DROPPED THE BOTTOM PLUG AND PUMPED 178 BBLS (740 SX) OF CLASS G LEAD CEMENT, 12.8 PPG 1.36 YLD, 53.00 #/SK D035 + 0.10% BWOC D208 + 0.2% BWOC D065 +.20 % BWOC D046 + .25 #/SK D029 + 0.50% BWOC D079 + 0.49 % BWOC D800 , 6.3 GL./SK FRESH WATER . FOLLOWED BY 258 BBLS (1079 SX) OF 14.5#, 1.34 YLD. CLASS G POZ TAIL CEMENT + 35.00#/SK D035 + 20.10% BWOC D066 +0.05% BWOC D208 + 0.16 % BWOC D800 + 0.20 % BWOC D046 + 0.30 % BWOC B477 + 5.59 GL/SK FRESH WATER . SHUT DOWN AND DROP PLUG AND DISPLACE W/ 138.2 BBLS OF FRESH WATER. FULL RETURNS WITH 58 BBLS OF CEMENT RETURNED TO SURFACE. LIFT PSI OF 2735 / BUMP PLUG 3578 PSI. . PRESSURE HELD 5 MINS. FLOAT HELD. FLOW BACK 1.5 BBLS. EST. TOC FOR LEAD 13', EST TOC OF TAIL CEMENT 3910'.
	7:00 - 7:30	0.50	CSGPRO	12	B	P	8969	RIG DOWN THE CEMENTERS
	7:30 - 8:00	0.50	CSGPRO	14	B	P	8969	INSTALL THE PACK OFF
	8:00 - 9:00	1.00	RDMO	14	A	P	8969	NIPPLE DOWN THE BOP, CHOKE AND FLOW LINE

RECEIVED: Jan. 11, 2016

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: PROPETRO 12/12, ENSIGN 145/145
Event: DRILLING	Start date: 7/2/2015		End date: 10/1/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	9:00 - 18:00	9.00	RDMO	01	E	P	8969	CLEANING RIG PITS SKID THE RIG BACK, RIG DOWN BACK YARD MOVED THE RIG CAMPS, PIPE TUBS AND MUD FARM TO THE NEW LOCATION RIG RELEASED @ 18:00 10/1/2015 JD: ARRIVED 07:00 LEFT 18:00 2-BED TRUCKS 2-HAUL TRUCKS 2-FORKLIFTS 2-SUPERVISORS 4-SWAMPERS 4- WATER TRUCKS 3-ROUSTABOUTS

RECEIVED: Jan. 11, 2016

ANADARKO PETROLEUM CORP

UINTAH COUNTY, UTAH (NAD 27)
NW SE SEC. 9 T10S R22E (NBU 1022-9J PAD)
NBU 1022-9J1BS
JOB #2015-114-145

30 September, 2015

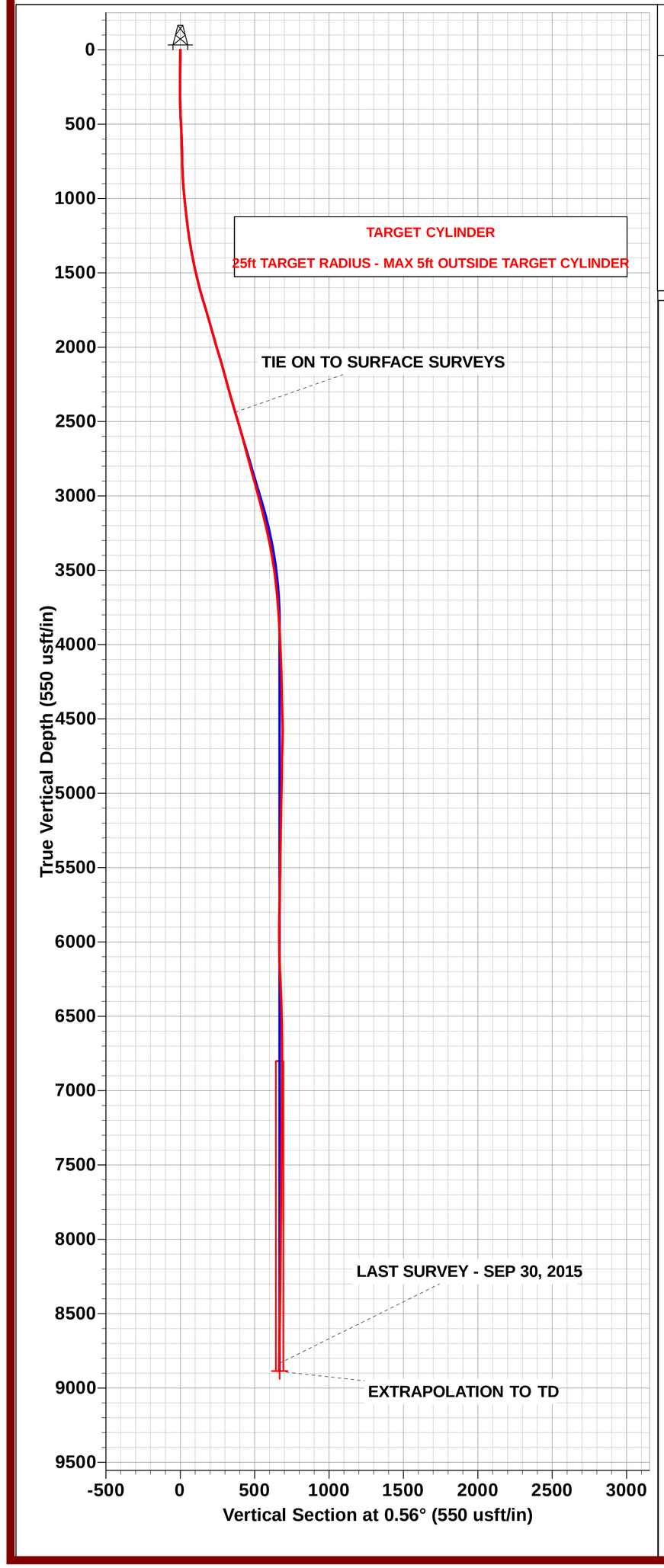
Survey: FINAL SURVEYS

RECEIVED: Jan. 11, 2016

Project: UINTAH COUNTY, UTAH (NAD 27)
Site: NW SE SEC. 9 T10S R22E (NBU 1022-9J PAD)
Well: NBU 1022-9J1BS
Wellbore: JOB #2015-114-145
Design: FINAL SURVEYS

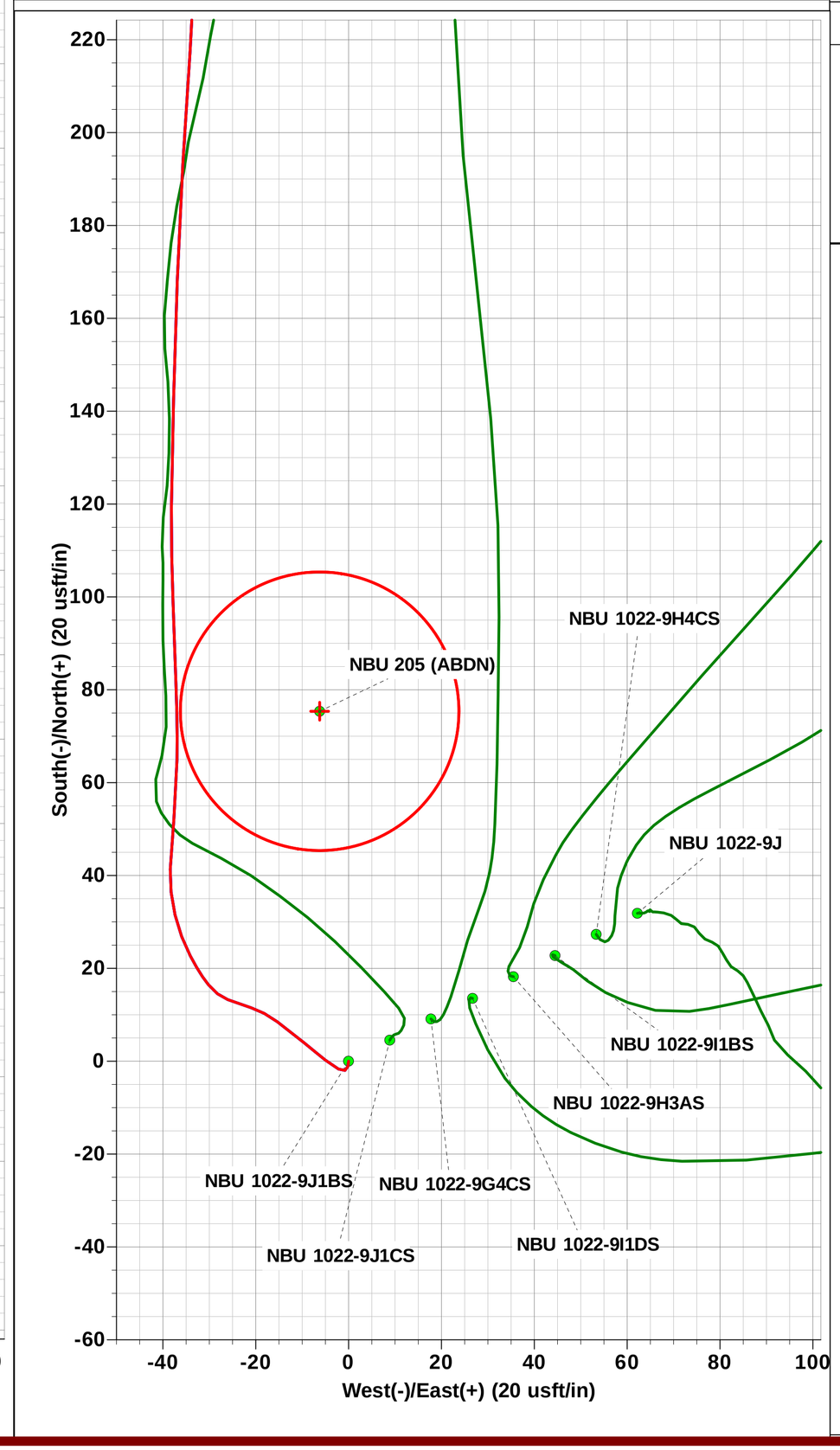
Anadarko Petroleum Corporation

total



PROJECT DETAILS: UINTAH COUNTY, UTAH (NAD 27)

Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Padsite:	NW SE SEC. 9 T10S R22E (NBU 1022-9J PAD)
	5208ft Mean Sea Level



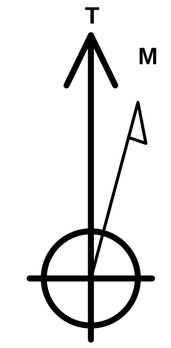
WELL DETAILS: NBU 1022-9J1BS

Ground Level: 5208.0

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	14515852.03	2077253.79	39.961526	-109.441101

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - NBU 1022-9J1BS	8886.0	667.6	6.5	14516519.56	2077248.62	39.963359	-109.441078

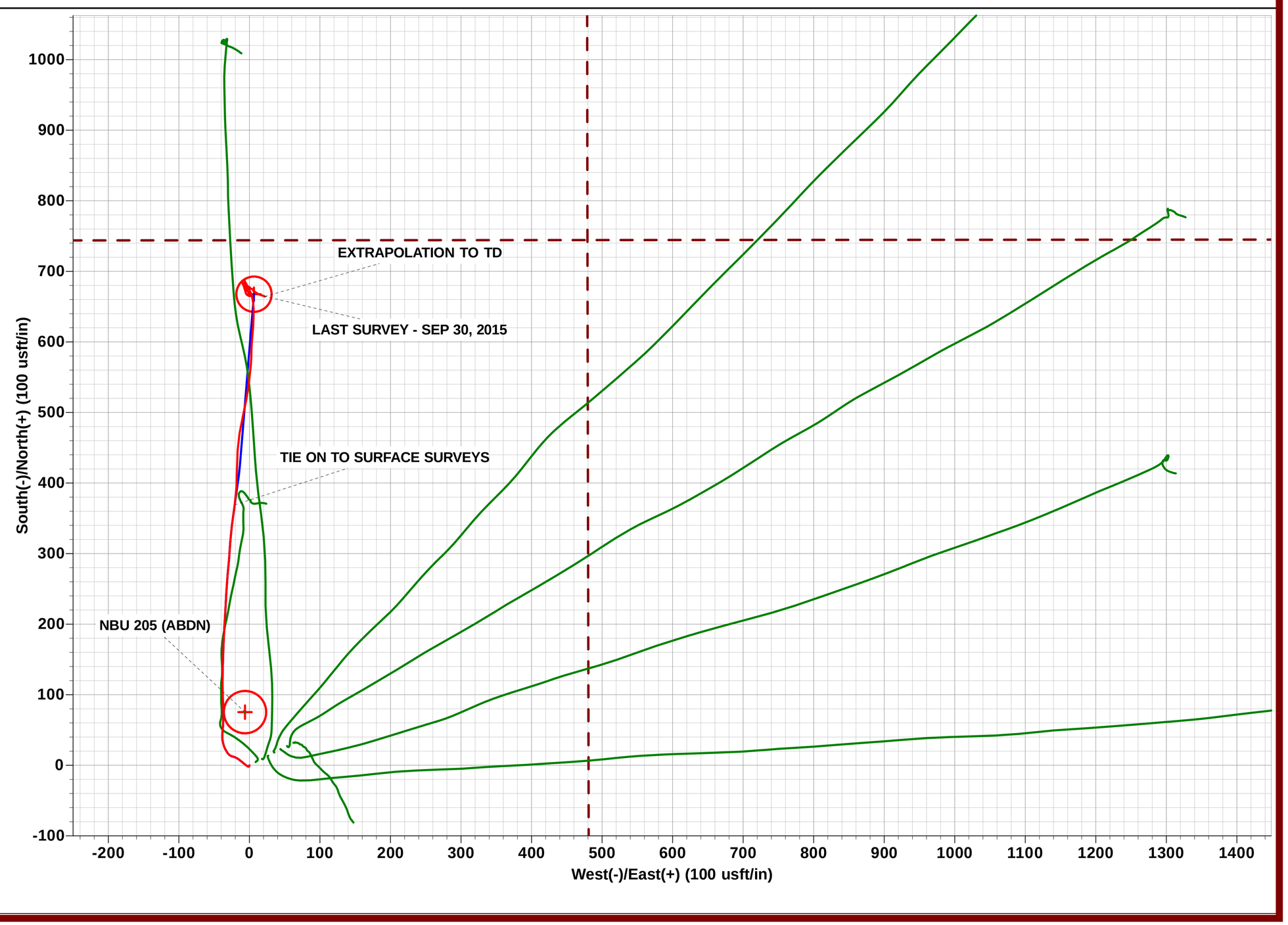


Azimuths to True North
Magnetic North: 10.56°

Magnetic Field
Strength: 51789.2snT
Dip Angle: 65.73°
Date: 21/09/2015
Model: IGRF2015

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
2437.2	2482.0	16.61	8.14	369.1	-20.9	368.9	393.3	TIE ON TO SURFACE SURVEYS
8834.7	8916.0	1.19	119.81	664.9	20.8	665.0	808.7	LAST SURVEY - SEP 30, 2015
8887.6	8969.0	1.19	119.81	664.3	21.8	664.5	809.8	EXTRAPOLATION TO TD



Survey Report

Company:	ANADARKO PETROLEUM CORP	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Project:	UINTAH COUNTY, UTAH (NAD 27)	**TVD Reference:**	KB @ 5221.0usft (ENS 145)
Site:	NW SE SEC. 9 T10S R22E (NBU 1022-9J	**MD Reference:**	KB @ 5221.0usft (ENS 145)
Well:	NBU 1022-9J1BS	**North Reference:**	True
Wellbore:	JOB #2015-114-145	**Survey Calculation Method:**	Minimum Curvature
Design:	FINAL SURVEYS	**Database:**	EDM 5000.1 Single User Db

Project UINTAH COUNTY, UTAH (NAD 27)

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		Using geodetic scale factor

Site NW SE SEC. 9 T10S R22E (NBU 1022-9J PAD)

Site Position:		**Northing:**	14,515,856.74 usft	**Latitude:**	39.961538
From:	Lat/Long	**Easting:**	2,077,262.59 usft	**Longitude:**	-109.441069
Position Uncertainty:	0.0 usft	**Slot Radius:**	1.10000 ft	**Grid Convergence:**	1.00 °

Well NBU 1022-9J1BS

Well Position	**+N/-S**	0.0 usft	**Northing:**	14,515,852.03 usft	**Latitude:**	39.961526
	+E/-W	0.0 usft	**Easting:**	2,077,253.79 usft	**Longitude:**	-109.441101
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	5,208.0 usft

Wellbore JOB #2015-114-145

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	21/09/2015	10.56	65.73	51,789

Design FINAL SURVEYS

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	0.56

Survey Program **Date** 30/09/2015

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
154.0	8,969.0	FINAL SURVEYS (JOB #2015-114-145)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	-5,221.0	0.0	0.0	0.0	0.00	0.00	0.00
154.0	0.80	186.55	154.0	-5,067.0	-1.1	-0.1	-1.1	0.52	0.52	0.00
244.0	0.81	244.31	244.0	-4,977.0	-2.0	-0.8	-2.0	0.86	0.01	64.18
316.0	1.72	298.19	316.0	-4,905.0	-1.7	-2.2	-1.7	1.95	1.26	74.83
400.0	2.95	308.30	399.9	-4,821.1	0.3	-5.0	0.2	1.54	1.46	12.04
490.0	4.72	309.56	489.7	-4,731.3	4.1	-9.7	4.0	1.97	1.97	1.40
580.0	4.49	306.53	579.4	-4,641.6	8.5	-15.3	8.4	0.37	-0.26	-3.37
670.0	3.72	288.05	669.2	-4,551.8	11.5	-21.0	11.3	1.69	-0.86	-20.53
760.0	3.15	290.90	759.0	-4,462.0	13.3	-26.0	13.0	0.66	-0.63	3.17
850.0	3.79	321.40	848.9	-4,372.1	16.5	-30.2	16.2	2.14	0.71	33.89
940.0	5.63	332.39	938.6	-4,282.4	22.7	-34.1	22.4	2.27	2.04	12.21
1,030.0	6.40	346.01	1,028.1	-4,192.9	31.5	-37.4	31.2	1.80	0.86	15.13
1,120.0	6.37	2.00	1,117.5	-4,103.5	41.4	-38.4	41.0	1.97	-0.03	17.77

Survey Report

Company:	ANADARKO PETROLEUM CORP	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Project:	UINTAH COUNTY, UTAH (NAD 27)	**TVD Reference:**	KB @ 5221.0usft (ENS 145)
Site:	NW SE SEC. 9 T10S R22E (NBU 1022-9J	**MD Reference:**	KB @ 5221.0usft (ENS 145)
Well:	NBU 1022-9J1BS	**North Reference:**	True
Wellbore:	JOB #2015-114-145	**Survey Calculation Method:**	Minimum Curvature
Design:	FINAL SURVEYS	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,210.0	7.43	5.88	1,206.9	-4,014.1	52.2	-37.6	51.8	1.29	1.18	4.31
1,300.0	8.90	0.73	1,295.9	-3,925.1	64.9	-36.9	64.5	1.82	1.63	-5.72
1,390.0	11.20	358.11	1,384.6	-3,836.4	80.6	-37.1	80.2	2.60	2.56	-2.91
1,480.0	12.26	357.73	1,472.7	-3,748.3	98.9	-37.8	98.5	1.18	1.18	-0.42
1,570.0	13.98	0.24	1,560.3	-3,660.7	119.3	-38.1	118.9	2.01	1.91	2.79
1,660.0	16.02	1.86	1,647.3	-3,573.7	142.6	-37.7	142.2	2.31	2.27	1.80
1,750.0	17.11	1.79	1,733.5	-3,487.5	168.2	-36.9	167.9	1.21	1.21	-0.08
1,840.0	15.44	3.76	1,819.9	-3,401.1	193.4	-35.7	193.1	1.95	-1.86	2.19
1,930.0	15.87	3.55	1,906.6	-3,314.4	217.7	-34.1	217.3	0.48	0.48	-0.23
2,020.0	16.64	2.54	1,993.0	-3,228.0	242.8	-32.8	242.5	0.91	0.86	-1.12
2,110.0	17.03	5.60	2,079.1	-3,141.9	268.8	-30.9	268.5	1.08	0.43	3.40
2,200.0	14.77	4.48	2,165.7	-3,055.3	293.4	-28.8	293.1	2.53	-2.51	-1.24
2,290.0	15.22	3.61	2,252.6	-2,968.4	316.6	-27.1	316.3	0.56	0.50	-0.97
2,380.0	16.03	7.43	2,339.3	-2,881.7	340.7	-24.8	340.5	1.45	0.90	4.24
TIE ON TO SURFACE SURVEYS										
2,482.0	***16.61***	***8.14***	***2,437.2***	***-2,783.8***	***369.1***	***-20.9***	***368.9***	***0.60***	***0.57***	***0.70***
2,573.0	16.92	3.53	2,524.3	-2,696.7	395.2	-18.2	395.0	1.50	0.34	-5.07
2,668.0	15.07	359.31	2,615.6	-2,605.4	421.4	-17.5	421.2	2.30	-1.95	-4.44
2,763.0	14.90	4.41	2,707.4	-2,513.6	445.9	-16.7	445.7	1.40	-0.18	5.37
2,857.0	15.47	8.54	2,798.1	-2,422.9	470.3	-13.9	470.2	1.30	0.61	4.39
2,952.0	14.81	13.20	2,889.8	-2,331.2	494.7	-9.3	494.6	1.46	-0.69	4.91
3,046.0	15.25	10.12	2,980.6	-2,240.4	518.5	-4.4	518.5	0.97	0.47	-3.28
3,141.0	14.94	7.48	3,072.3	-2,148.7	543.0	-0.6	543.0	0.79	-0.33	-2.78
3,235.0	13.67	4.76	3,163.4	-2,057.6	566.1	1.9	566.1	1.53	-1.35	-2.89
3,330.0	12.66	0.80	3,255.9	-1,965.1	587.7	3.0	587.7	1.42	-1.06	-4.17
3,424.0	10.15	6.25	3,348.1	-1,872.9	606.2	4.0	606.2	2.90	-2.67	5.80
3,519.0	9.62	2.83	3,441.6	-1,779.4	622.5	5.3	622.5	0.83	-0.56	-3.60
3,613.0	6.86	2.03	3,534.7	-1,686.3	635.9	5.9	635.9	2.94	-2.94	-0.85
3,708.0	6.02	358.96	3,629.1	-1,591.9	646.6	6.0	646.6	0.96	-0.88	-3.23
3,802.0	4.75	349.99	3,722.7	-1,498.3	655.3	5.3	655.3	1.62	-1.35	-9.54
3,897.0	3.82	349.73	3,817.4	-1,403.6	662.3	4.0	662.3	0.98	-0.98	-0.27
3,991.0	3.38	337.95	3,911.2	-1,309.8	668.0	2.4	668.0	0.91	-0.47	-12.53
4,086.0	2.55	337.51	4,006.1	-1,214.9	672.5	0.6	672.5	0.87	-0.87	-0.46
4,180.0	2.46	333.91	4,100.0	-1,121.0	676.3	-1.1	676.2	0.19	-0.10	-3.83
4,275.0	1.93	328.46	4,194.9	-1,026.1	679.5	-2.9	679.4	0.60	-0.56	-5.74
4,369.0	1.41	329.16	4,288.9	-932.1	681.8	-4.3	681.7	0.55	-0.55	0.74
4,464.0	1.54	332.33	4,383.8	-837.2	683.9	-5.5	683.8	0.16	0.14	3.34
4,558.0	1.23	341.29	4,477.8	-743.2	686.0	-6.4	685.9	0.40	-0.33	9.53
4,653.0	1.41	315.63	4,572.8	-648.2	687.8	-7.5	687.7	0.64	0.19	-27.01
4,747.0	2.55	145.82	4,666.8	-554.2	686.9	-7.2	686.8	4.20	1.21	-180.65
4,842.0	1.14	179.84	4,761.7	-459.3	684.2	-6.0	684.1	1.82	-1.48	35.81
4,936.0	0.83	169.38	4,855.7	-365.3	682.6	-5.8	682.5	0.38	-0.33	-11.13
5,031.0	1.19	178.96	4,950.7	-270.3	680.9	-5.7	680.9	0.42	0.38	10.08
5,125.0	1.23	166.65	5,044.7	-176.3	679.0	-5.4	678.9	0.28	0.04	-13.10
5,220.0	1.01	150.39	5,139.7	-81.3	677.3	-4.8	677.2	0.40	-0.23	-17.12
5,315.0	1.23	153.65	5,234.6	13.6	675.6	-3.9	675.5	0.24	0.23	3.43
5,409.0	1.01	166.04	5,328.6	107.6	673.9	-3.3	673.8	0.35	-0.23	13.18
5,504.0	0.83	165.07	5,423.6	202.6	672.4	-2.9	672.4	0.19	-0.19	-1.02
5,598.0	1.05	139.85	5,517.6	296.6	671.1	-2.2	671.1	0.49	0.23	-26.83
5,693.0	1.05	140.64	5,612.6	391.6	669.8	-1.1	669.7	0.02	0.00	0.83
5,788.0	1.01	143.27	5,707.6	486.6	668.4	0.0	668.4	0.07	-0.04	2.77
5,882.0	1.45	156.28	5,801.5	580.5	666.7	1.0	666.7	0.55	0.47	13.84
5,977.0	0.92	208.05	5,896.5	675.5	664.9	1.1	664.9	1.20	-0.56	54.49

Survey Report

Company:	ANADARKO PETROLEUM CORP	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Project:	UINTAH COUNTY, UTAH (NAD 27)	**TVD Reference:**	KB @ 5221.0usft (ENS 145)
Site:	NW SE SEC. 9 T10S R22E (NBU 1022-9J	**MD Reference:**	KB @ 5221.0usft (ENS 145)
Well:	NBU 1022-9J1BS	**North Reference:**	True
Wellbore:	JOB #2015-114-145	**Survey Calculation Method:**	Minimum Curvature
Design:	FINAL SURVEYS	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,071.0	1.85	304.73	5,990.5	769.5	665.1	-0.5	665.1	2.30	0.99	102.85
6,166.0	1.63	293.48	6,085.5	864.5	666.5	-3.0	666.5	0.43	-0.23	-11.84
6,261.0	2.77	340.33	6,180.4	959.4	669.2	-5.0	669.1	2.15	1.20	49.32
6,355.0	2.81	346.39	6,274.3	1,053.3	673.6	-6.3	673.5	0.32	0.04	6.45
6,450.0	2.02	339.27	6,369.2	1,148.2	677.4	-7.5	677.3	0.89	-0.83	-7.49
6,544.0	1.67	341.56	6,463.1	1,242.1	680.3	-8.5	680.2	0.38	-0.37	2.44
6,639.0	1.54	330.13	6,558.1	1,337.1	682.7	-9.6	682.6	0.36	-0.14	-12.03
6,733.0	0.83	349.03	6,652.1	1,431.1	684.5	-10.3	684.3	0.85	-0.76	20.11
6,828.0	0.04	100.56	6,747.1	1,526.1	685.1	-10.4	685.0	0.89	-0.83	117.40
6,923.0	0.04	280.56	6,842.1	1,621.1	685.1	-10.4	685.0	0.08	0.00	-189.47
7,017.0	0.53	144.86	6,936.1	1,715.1	684.8	-10.2	684.6	0.60	0.52	-144.36
7,112.0	0.83	128.42	7,031.1	1,810.1	684.0	-9.4	683.9	0.37	0.32	-17.31
7,206.0	0.97	126.14	7,125.1	1,904.1	683.1	-8.2	683.0	0.15	0.15	-2.43
7,301.0	0.62	139.23	7,220.1	1,999.1	682.2	-7.2	682.1	0.41	-0.37	13.78
7,395.0	1.01	115.15	7,314.0	2,093.0	681.5	-6.2	681.4	0.54	0.41	-25.62
7,490.0	0.62	125.70	7,409.0	2,188.0	680.8	-5.0	680.8	0.44	-0.41	11.11
7,584.0	1.36	133.52	7,503.0	2,282.0	679.8	-3.8	679.7	0.80	0.79	8.32
7,679.0	1.54	116.29	7,598.0	2,377.0	678.4	-1.8	678.4	0.49	0.19	-18.14
7,773.0	0.97	109.88	7,692.0	2,471.0	677.6	0.1	677.6	0.62	-0.61	-6.82
7,868.0	0.57	166.92	7,787.0	2,566.0	676.9	0.9	676.9	0.86	-0.42	60.04
7,963.0	0.35	156.37	7,882.0	2,661.0	676.1	1.2	676.1	0.25	-0.23	-11.11
8,057.0	1.05	109.00	7,976.0	2,755.0	675.6	2.1	675.6	0.91	0.74	-50.39
8,152.0	0.83	117.44	8,070.9	2,849.9	675.0	3.5	675.0	0.27	-0.23	8.88
8,246.0	1.10	140.11	8,164.9	2,943.9	674.0	4.7	674.0	0.49	0.29	24.12
8,341.0	1.45	138.70	8,259.9	3,038.9	672.4	6.1	672.4	0.37	0.37	-1.48
8,435.0	1.85	119.02	8,353.9	3,132.9	670.8	8.2	670.8	0.73	0.43	-20.94
8,530.0	1.58	129.39	8,448.8	3,227.8	669.2	10.6	669.3	0.43	-0.28	10.92
8,619.0	2.11	113.48	8,537.8	3,316.8	667.8	13.0	667.9	0.82	0.60	-17.88
8,708.0	1.49	112.51	8,626.7	3,405.7	666.7	15.6	666.8	0.70	-0.70	-1.09
8,798.0	1.67	106.36	8,716.7	3,495.7	665.8	17.9	666.0	0.27	0.20	-6.83
8,887.0	1.45	108.03	8,805.7	3,584.7	665.1	20.2	665.3	0.25	-0.25	1.88
LAST SURVEY - SEP 30, 2015										
8,916.0	***1.19***	***119.81***	***8,834.7***	***3,613.7***	***664.9***	***20.8***	***665.0***	***1.29***	***-0.90***	***40.62***
EXTRAPOLATION TO TD										
8,969.0	***1.19***	***119.81***	***8,887.6***	***3,666.6***	***664.3***	***21.8***	***664.5***	***0.00***	***0.00***	***0.00***

Survey Report

Company:	ANADARKO PETROLEUM CORP	**Local Co-ordinate Reference:**	Well NBU 1022-9J1BS
Project:	UINTAH COUNTY, UTAH (NAD 27)	**TVD Reference:**	KB @ 5221.0usft (ENS 145)
Site:	NW SE SEC. 9 T10S R22E (NBU 1022-9J	**MD Reference:**	KB @ 5221.0usft (ENS 145)
Well:	NBU 1022-9J1BS	**North Reference:**	True
Wellbore:	JOB #2015-114-145	**Survey Calculation Method:**	Minimum Curvature
Design:	FINAL SURVEYS	**Database:**	EDM 5000.1 Single User Db

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NBU 205 (ABDN)	0.00	0.00	7,263.0	75.4	-6.2	14,515,927.28	2,077,246.25	39.961733	-109.441123
- survey misses target center by 606.5usft at 7348.7usft MD (7267.8 TVD, 681.9 N, -6.8 E)									
- Circle (radius 30.0)									
BHL - NBU 1022-9J1BS	0.00	0.00	8,886.0	667.6	6.5	14,516,519.56	2,077,248.62	39.963359	-109.441078
- survey misses target center by 15.6usft at 8967.0usft MD (8885.7 TVD, 664.3 N, 21.8 E)									
- Circle (radius 25.0)									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,482.0	2,437.2	369.1	-20.9	TIE ON TO SURFACE SURVEYS
8,916.0	8,834.7	664.9	20.8	LAST SURVEY - SEP 30, 2015
8,969.0	8,887.6	664.3	21.8	EXTRAPOLATION TO TD

Checked By: _____ Approved By: _____ Date: _____

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: MILES 2/2
Event: COMPLETION	Start date: 11/9/2015		End date: 12/14/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/3/2015	-							
10/27/2015	0:00 -		SUBSPR	52	A	P		HSM, 0 PSI ON SURFACE CSG, BLEED OFF, FILL SURFACE & 4 1/2" CSG W/ BRINE MIRU CAMERON TEST TRUCK PRESSURE TEST CSG & FRAC VALVES TO 7046 PSI, LOST 54 PSI IN 15 MIN, NO COMMUNICATION OR MIGRATION WITH SURFACE CSG, BLEED OFF PSI. TEST SURFACE CSG TO 502 PSI, LOST 61 PSI IN 5 MIN. RDMO CAMERON
11/13/2015	15:00 - 17:00	2.00	FRAC	37	E	P		RU WL PERFED STAGE 1) AS DESIGNED
	17:00 - 0:00	7.00	FRAC	46	E	Z		HELD SAFETY MEETING: NIGHT TIME OPERATIONS. PRESSURE TEST PUMP & LINES TO 9000 PSI TRIED FOR 6 HRS TO GET A PRESSURE TEST NO SUCESS, CONTINUE TO TRY AND FIND THE PROBLEM
11/14/2015	0:00 - 1:30	1.50	FRAC	46	E	Z		CONTINUE TO ATTEMT TO PRESSURE TEST: TESTED TO 9021 PSI HELD FOR 10 MIN ENDING PRESSURE 8637 PSI LOST 384 PSI.
	1:30 - 0:00	22.50	FRAC	36	H	P		FRAC STAGE 1) WHP 333 PSI, BRK 3490 PSI @ 3.3 BPM. ISIP 2243 PSI, FG. 0.7 ISIP 2618 PSI, FG .74, NPI 375 PSI. SET HAL 8 K CBP PERF STAGE # 2) AS DESIGNED FRAC STG #2) WHP 2100 PSI, BRK 3043 PSI @ 3 BPM. ISIP 2638 PSI, FG. 0.75 ISIP 2820 PSI, FG. 0.77, NPI 182 PSI. SET HAL 8K CBP & PERF STG # 3) AS DESIGNED FRAC STG #3) WHP 2414 PSI, BRK 2878 PSI @ 2.9 BPM. ISIP 2474 PSI, FG. 0.74 ISIP 2993 PSI, FG. 0.8, NPI 519 PSI. SET HAL 8K CBP & PERF STG # 4) AS DESIGNED
11/15/2015	0:00 - 0:00	24.00	FRAC	36	H	P		FRAC STAGE # 4) WHP 2528 PSI, BRK 3867 PSI @ 2.9 BPM. ISIP 2831 PSI, FG. 0.8 ISIP 2819 PSI, FG. 0.79, NPI -12 PSI. SET HAL 8K CBP & PERF STG # 5) AS PER DESIGN FRAC STG # 5) WHP 2117 PSI, BRK 2795 PSI @ 3.8 BPM. ISIP 2514 PSI, FG. 0.77 ISIP 2739 PSI, FG. 0.8, NPI 225 PSI. SET HAL 8K CBP & PERF STG # 6 AS PER DESIGN

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: MILES 2/2
Event: COMPLETION	Start date: 11/9/2015		End date: 12/14/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
11/16/2015	0:00 - 0:00	24.00	FRAC	36	H	P		FRAC STAGE # 6) WHP 1893 PSI, BRK 3615 PSI @ 2.5 BPM. ISIP 2334 PSI, FG. 0.76 ISIP 2586 PSI, FG. 0.79, NPI 252 PSI. SET HAL 8K CBP & PERF STG #7 AS PER DESIGN
11/17/2015	0:00 - 0:00	24.00	FRAC	36	H	P		FRAC & PERF 24 HR OPERATIONS
11/18/2015	0:00 - 0:00	24.00	FRAC	36	H			FRAC STAGE # 7)WHP 1450 PSI, BRK 2630 PSI @ 2.7 BPM. ISIP 1902 PSI, FG. 0.71 ISIP 2715 PSI, FG. 0.82, NPI 813 PSI. SET KILL PLUG, RD FRAC & WL CREWS SWI FLUID PUMPED 73,250 TOTAL SAND 301,056
12/10/2015	7:00 - 7:15	0.25	DRLOUT	48		P		HSM, SLIPS,TRIPS AND FALLS.
	7:15 - 15:00	7.75	DRLOUT	31	I	P		TALL & PU 3-7/8" BIT, POBS, 217 JTS 2-3/8" P-110 TBG. TAGGED @ 6878". RU DRLG EQUIP, PREP TO D/O ON 12/14/1. SWI SDFWE
12/11/2015	7:00 - 15:00	8.00	DRLOUT	46	A	S		ON STANDBY DUE TO MIDSTREAM GAS GATHERING ISSUES.
12/14/2015	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, D/O PLUGS WATCHING PRESSURE.

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-9J1BS PURPLE		Spud date: 7/2/2015	
Project: UTAH-UINTAH	Site: NBU 1022-9J PAD		Rig name no.: MILES 2/2
Event: COMPLETION	Start date: 11/9/2015		End date: 12/14/2015
Active datum: RKB @5,221.00usft (above Mean Sea Level)	UWI: NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:30 - 17:00	9.50	DRLOUT	44	D	P		7 OF 7, BROKE CIRC CONV, TEST BOPS TO 3,000 PSI, RIH. C/O 30' SAND TAG 1ST PLUG @ 6884' DRL PLG IN 5 MIN, 400 PSI INCREASE RIH. C/O 60' SAND TAG 2ND PLUG @ 7196' DRL PLG IN 5 MIN, 200 PSI INCREASE RIH. C/O 50' SAND TAG 3RD PLUG @ 7430' DRL PLG IN 5 MIN, 200 PSI INCREASE RIH. C/O 90' SAND TAG 4TH PLUG @ 7732' DRL PLG IN 5 MIN, 700 PSI INCREASE RIH. C/O 20' SAND TAG 5TH PLUG @ 8055' DRL PLG IN 5 MIN, 500 PSI INCREASE RIH. C/O 20' SAND TAG 6TH PLUG @ 8302' DRL PLG IN 5 MIN, 400 PSI INCREASE RIH. C/O 20' SAND TAG 7TH PLUG @ 8531' DRL PLG IN 5 MIN, 800 PSI INCREASE RIH. C/O TO FILL 8887', CIRC CLN, RD SWIVEL, L/D 66 JTS, LAND TBG, ND BOPS NU WH, TEST FL, PUMPED OFF BIT, TURN WELL TO FB CREW. RIGGED DWN, MIRU ON 1 OF 4 RED WELL ON NBU 1022-9E PAD SDFN. KB = 13’ 41/16 HANGER = .83' 215 JTS 23/8 P-110 = 6797.76' POBS W/ 1.875 X/N = 2.20' EOT @ 6813.79' (120.21' ABOVE TOP PERF TO RUN LOGS) TOP PERF @ 6934' TWTR = 73,250 BBLS TWR = 1870 BBLS TWLTR = 71,380 BBLS 316 JT HAULED OUT, P-110. 215 JTS LANDED 101 JTS TO RETURN
	17:00 - 17:00	0.00	DRLOUT	50				WELL TURNED TO SALES @ 13:30 HR ON 12/14/2015. 0 MCFD, 1200 BWPD, FCP 1980#, FTP 1630#, 20/64" CK.

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1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-9J1BS PURPLE	**Wellbore No.**	OH
Well Name	NBU 1022-9J1BS	**Wellbore Name**	NBU 1022-9J1BS
Report no.	1	**Report date**	11/9/2015
Project	UTAH-UINTAH	**Site**	NBU 1022-9J PAD
Rig Name/No.	MILES 2/2	**Event**	COMPLETION
Start date	11/9/2015	**End date**	12/14/2015
Spud date	7/2/2015	**Active datum**	RKB @5,221.00usft (above Mean Sea Level)
UWI	NW/SE/0/10/S/22/E/9/0/0/26/PM/S/1908/E/0/1802/0/0		

1.3 General

Contractor		**Job method**		**Supervisor**	
Perforated Assembly		**Conveyed method**			

1.4 Initial Conditions

Fluid type		**Fluid density**	
Surface press.		**Estimate res press**	
TVD fluid top		**Fluid head**	
Hydrostatic press.		**Press. difference**	
Balance Cond	NEUTRAL		

1.5 Summary

Gross Interval	6,934.0 (usft)-8,768.0 (usft	**Start Date/Time**	11/9/2015 12:00AM
No. of intervals	53	**End Date/Time**	11/9/2015 12:00AM
Total shots	168	**Net perforation interval**	56.00 (usft)
Avg. shot density	3.00 (shot/ft)	**Final surface pressure**	
		Final press. date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
11/9/2015 12:00AM	M E S A V E RDE/			6,934.0	6,935.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
11/9/2015 12:00AM	M E S A V E RDE/			6,959.0	6,960.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			6,978.0	6,979.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,038.0	7,039.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,072.0	7,073.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,115.0	7,116.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,128.0	7,129.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,176.0	7,177.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,246.0	7,247.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,306.0	7,307.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,329.0	7,330.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,342.0	7,344.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,360.0	7,362.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,409.0	7,410.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,490.0	7,491.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,529.0	7,530.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,554.0	7,555.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,593.0	7,594.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,609.0	7,610.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,619.0	7,620.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,660.0	7,661.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,711.0	7,712.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,802.0	7,803.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
11/9/2015 12:00AM	M E S A V E RDE/			7,825.0	7,826.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,852.0	7,853.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,898.0	7,899.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,916.0	7,917.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			7,948.0	7,949.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,021.0	8,022.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,039.0	8,040.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,070.0	8,071.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,116.0	8,117.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,149.0	8,150.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,185.0	8,186.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,213.0	8,214.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,236.0	8,237.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,250.0	8,251.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,286.0	8,287.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,321.0	8,322.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,358.0	8,359.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,378.0	8,379.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,400.0	8,401.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,421.0	8,422.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,453.0	8,454.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,479.0	8,480.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0

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2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
11/9/2015 12:00AM	M E S A V E RDE/			8,500.0	8,501.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,635.0	8,636.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,660.0	8,661.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,673.0	8,674.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,706.0	8,707.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,714.0	8,715.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,732.0	8,734.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0
11/9/2015 12:00AM	M E S A V E RDE/			8,767.0	8,768.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		0

3 Plots

3.1 Wellbore Schematic